

PMOC MONTHLY REPORT

Honolulu Rail Transit Project

City and County of Honolulu
Honolulu Authority for Rapid Transportation (HART)
Honolulu, HI

October 2018 Report (FINAL)

PMOC Contract Number: DTFT60-14-D-0011

Task Order No. 2: Programmatic, Project No: DC-27-5272, Work Order No. 22

OPs Referenced: OP 1 and 25

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Length of Time PMOC Assigned to Project: 6 months

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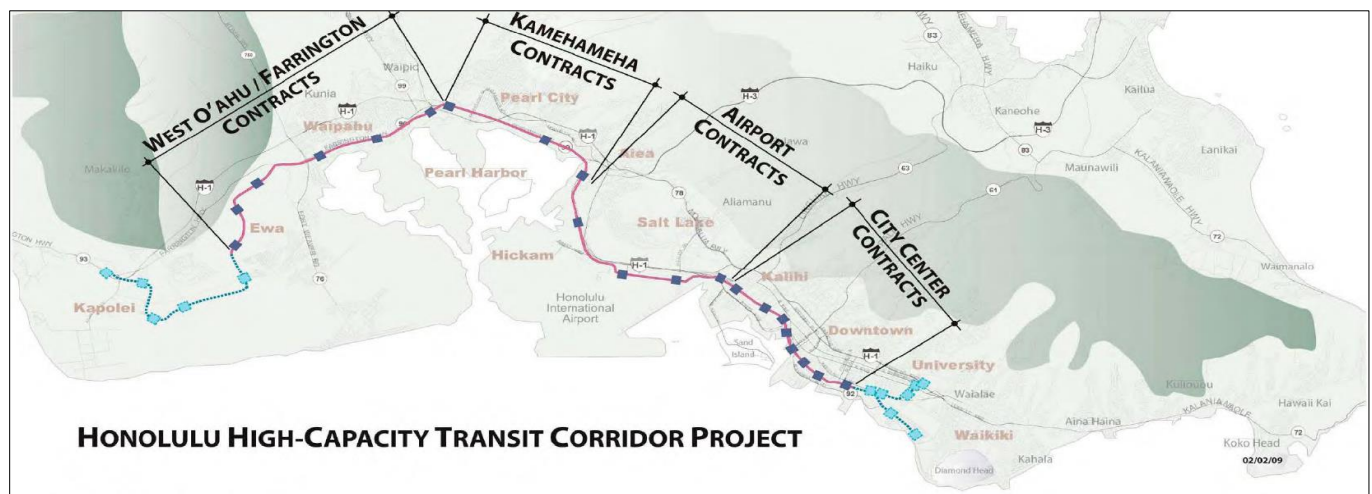
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1.0 EXECUTIVE SUMMARY

1.1 Project Description

- **General Description:** The Project is a 20-mile-long elevated fixed guideway rail system along Oahu's south shore between East Kapolei and Ala Moana Center. The Project will include 21 stations. The alignment is elevated, except for a 0.6-mile at-grade portion at the Leeward Community College station. The Project is planned to be delivered in four guideway segments as described and shown in the figure below.
 - Segment I (West Oahu/Farrington Highway) – East Kapolei to Pearl Highlands (7 miles/6 stations)
 - Segment II (Kamehameha Highway) – Pearl Highlands to Aloha Stadium (4 miles/3 stations)
 - Segment III (Airport) – Aloha Stadium to Middle Street (5 miles/4 stations)
 - Segment IV (City Center) – Middle Street to Ala Moana Center (4 miles/8 stations)



- **Length:** 20 miles
- **No. of Stations:** 21
- **Additional Facilities:** Maintenance and Storage Facility and parking facilities
- **Vehicles:** 80 vehicles
- **FFGA Ridership Forecast:** Weekday boardings – 104,300 (2020); 119,600 (2030)

1.2 Project Status¹

- A Risk Refresh Workshop was held February 27, 2018 to address HART's updated Estimate at Completion (EAC) and Master Program Schedule (MPS) that were provided in December 2017. The PMOC's Final 2018 Risk Refresh Report was transmitted to HART on June 29, 2018. Based on the Risk Refresh Report, FTA directed HART to update its Recovery Plan, which includes HART's Financial Plan. The revised Plans were to reflect the \$134 M budget shortfall and the 2026 Revenue Service Date (RSD)

¹ Sources of data in this report are HART's September 2018 Monthly Progress Report (MPR) and notes from the PMOC's oversight meeting held at HART on October 17, 2018. According to HART, "most of the schedule and cost data is presented with a reporting cutoff date of August 31, 2018, unless otherwise noted." (HART MPR Page 9)

recommended by the Risk Refresh. At the October 2018 oversight meetings, HART reported that its forthcoming Recovery Plan will include the \$134 M in its Estimate at Completion (EAC) and its schedule will reflect a 2026 RSD.

- Project progress as reported by HART against the current EAC and target RSD, based on HART's S-curve late plan as of August 31, 2018 is:

| Project Progress | Reported Completion | Planned Completion |
|------------------|---------------------|--------------------|
| Overall | 44.8% | 44.2% |
| Design | 76.9% | 70.3% |
| Construction | 39.1% | 38.9% |

- Section 2.1.2 and Appendix B of this report provide the status of the current design and construction contracts. The following table provides a summary level status of the active primary design & construction contracts taken from HART's September 2018 Monthly Progress Report:

| CPP No. | Description | % Complete (As of 07/09/18) | | Schedule Status ¹ |
|----------|--|-----------------------------|-----------|------------------------------|
| | | Actual (Weighted Value) | Late Plan | |
| DB-450 | Airport Guideway and Stations (AGS) Contract | 29.3% | 24.4% | On time |
| DBB-171 | West Oahu Station Group (WOSG) Construction Contract | 60.4% | 65.6% | 11-month delay |
| DBB-271 | Farrington Highway Station Group (FHSG) Construction Contract | 71.2% | 64.8% | 3-month delay |
| DBB-371 | Kamehameha Highway Station Group (KHSG) Construction Contract | 37.2% | 61.6% | 4-month delay |
| DBOM-920 | Core Systems Design-Build-Operate-Maintain (DBOM) Contract (CSC) | 57.1% | 49.8% | On time ² |
| MI-900 | Fare Collection System | 28.6% | 40.9% | 7-month delay ³ |
| MI-930 | Elevators and Escalators | 28.3% | TBD | TBD ³ |
| FD-530 | City Center Section Utilities & Guideway (CCUG) ⁴ | 89.2% ⁵ | 92.9 | On time |

¹ Delays identified are from current contract completion date.

² On time for Interim Opening based on re-baseline Rev K. schedule. However, schedule to support full revenue service will be developed when all access dates are determined.

³ Contract schedule is to be re-baselined to incorporate new milestone dates.

⁴ City Center Utilities, Phase 3, final design, substantial completion forecast for March 2019.

⁵ Based on expenditures.

1.3 Core Accountability Items

The EAC and percentage complete shown in the following table are based on data provided by HART.

| Project Status: FFGA (\$ are in millions) | | Original at FFGA | HART Current EAC ² |
|--|---|------------------|-------------------------------|
| Cost | Base Cost w/o Contingency | \$4,305 | \$7,325 |
| Contingency | Allocated ² | 542 | 758 |
| | Unallocated Contingency | 102 | 82 |
| Finance Charges | | 173 | 584 |
| Post RSD Finance Charges | | 42 | 271 |
| Total Project Cost ⁴ | | \$5,164 | \$9,020 |
| Schedule | Revenue Service Date (RSD) ⁴ | January 31, 2020 | December 2025 |
| HART Total Project Percent Complete | Based on Expenditures ¹ | No longer valid | 44% |
| | Based on Earned Value ³ | Not calculated | Not calculated |

¹ HART utilizes a weighted calculation to report progress.

² Earned Value is not being calculated for this project.

³ HART informed the PMOC at the September 12, 2018 Monthly Progress Meeting that it moved \$54 million in allocated contingency to project costs for the UTIL and UTIL 2 contracts. This is reflected in the table above in the amounts for “Cost” and “Allocated Contingency.”

⁴ Hart indicated at the October 17, 2018 PMOC Monthly Meeting that the RSD and the EAC will reflect the values recommended from the April 2018 Risk Refresh in its updated Financial Plan.

| Major Issues | Status | Comments/Planned Action |
|---|---|---|
| Cost Increase & Schedule Delays | HART informed the PMOC at the August 2018 oversight meeting that the delay in bidding the CCGS Design-Build contract has resulted in more than a 50-day erosion of the 12-month contingency. HART anticipates that changing to a P3 approach for the CCGS contract would result in recovery of the contingency erosion. | The FTA asked HART to provide a revised Recovery Plan addressing cost and schedule based on the PMOCs Final 2018 Risk Refresh Report, which was transmitted to HART on June 29, 2018. HART stated that the Recovery Plan will be completed and submitted to FTA by November 20, 2018. |
| Post-Record of Decision (ROD) Changes | HART is considering several proposed design changes that may require additional environmental review. | FTA and HART hold bi-weekly meetings to discuss the status of any potential changes. HART has submitted or will submit information on each proposed change for FTA to determine the level of documentation required to assess impacts and subsequent mitigation measures. |
| Hawaii Electric Company (HECO) | 50-foot clearance requirement for facility maintenance including pole replacement. | See PMOC Monthly Report Section 1.4 below for status. |
| Management Capacity and Capability | HART continues to experience significant turnover of key management staff since the start of this project. | HART needs to update its Staffing & Succession Plan dated May 2012. Moreover, the agency continues to experience turnover and challenges in hiring key project staff. At the October PMOC Monthly Meeting, HART introduced its very recently hired Rail & Activation Manager and noted the new Director of Project Controls, who will start October 29, 2018. HART also stated it will submit with its revised Recovery Plan, an updated PMP, which will address management staffing. |
| Delay in Fabrication & Installation of Canopies | This is a concern for the WOSG and FHSG stations. This delay affects conduits for Core Systems’ closed-circuit TV, signage, and speakers. | HART continues to evaluate these impacts and look for mitigation options. This is a continuing concern that could threaten the interim opening. Canopy progress is addressed in Section 2.12 of this report. |

| | | |
|---|--|--|
| Lack of decision on P3 has delayed award of the CCGS contract, which in turn could delay the December 2025 RSD. | Because the CCGS work is on the critical path to RSD, project schedule contingency continues to be impacted. | HART Board Approved the P3 approach on September 27, 2018. The RFP-Part One solicitation was issued on September 28, 2018. HART needs to update cost and schedule based on P3 delivery approach. |
|---|--|--|

1.4 Major Issues or Concerns

- HART Recovery Plan –

- HART's latest Recovery Plan is dated September 2017 was reviewed by the FTA and PMOC. Since that date, the PMOC conducted a Risk Refresh Workshop on February 27, 2018 to assess HART's Recovery Plan budget and schedule. The PMOC's Final 2018 Risk Refresh Report, which was transmitted to HART on June 29, 2018, incorporated updated cost and schedule information that was provided by HART subsequent to the workshop. According to the Risk Refresh Report:
 - The revised RSD should be no earlier than September 2026, which represents the 65% confidence level in the Schedule Risk Model.
 - The predicted FTA model cost outcome at the 50% confidence level is \$8.299 billion. With \$855 million in finance costs, the total project cost would be \$9.154 billion Total Project Cost.
- FTA asked HART to submit an updated Recovery Plan with Financial Plan that reflects the cost and schedule predictions of the 2018 Risk Refresh Report. HART delayed development of a Recovery Plan awaiting a decision to complete the project using a Public Private Partnership (P3) approach for design, construction, and operation. In a September 21, 2018 letter to HART, FTA asked for a decision on a procurement method for the CCGS segment within 30 days of the September 21 letter. FTA also asked HART to submit within 60 days of the September 21 letter a revised Recovery Plan with a financial plan that would cover the cost of the project as estimated in the 2018 Risk Refresh Report. On September 27, 2018, the HART Board approved the P3 approach to delivering the CCGS segment and operating the system for 30 years. After Board approval, HART committed to submit to FTA a revised Recovery Plan with a financial plan by November 20, 2018.
- Secondary Mitigation Measures are still being vetted by HART management. A draft list was provided to the PMOC. The monthly updated list shows that short of eliminating some major facilities such as the Pearl Highlands Parking Garage and Transit Center (PHGTC), the other possible mitigations will not close the gap between HART's current budget and the \$9.154 billion cost predicted in the PMOC's Risk Refresh Report. HART has indicated that deferral of PHGTC could provide sufficient mitigation; however, the FFGA commitment on parking supply could be an issue.
- The RSD remains December 2025 with 12 months of contingency; however, HART has stated that its October 2018 schedule update will reflect an RSD of February 2026. HART intends to implement an interim opening from East Kapolei Station to Aloha Stadium Station in December 2020, and is considering a second interim opening for the AGS segment from Aloha Stadium to the Middle

Street Transit Center, opening in 2023. The anticipated November 20 Recovery Plan will address the RSD recommended in the April 2018 Risk Refresh.

- The FTA and PMOC have recommended that HART consider performing a Technical Peer Review for the remaining contracts to identify opportunities to contain costs and mitigate risks. As previously reported, HART indicated that they would hold a second Peer Review that would primarily focus on the AGS, CCGS, and CSC contracts. HART has not indicated when this Peer Review would occur. The Peer Review should be completed prior to any restart of the CCGS procurement. HART has taken no action on this recommendation. Note, the CCGS segment is on track to be procured using P3.
- Hawaiian Electric Company (HECO) Horizontal Working Clearances Analysis –
 - West Oahu/ Farrington Highway (WOFH) and Kamehameha Highway (KHG) Segments – West Oahu/ Farrington Highway (WOFH) and Kamehameha Highway (KHG) Segments – Approximately 1.5 miles of 138kV lines along WOFH and KHG must be under-grounded due to working clearance issues. HART intends to complete this work using design-bid-build (DBB). Procurement of design services is underway with proposals due in August 2018. A partial NTP was issued September 7, 2018. It is anticipated that the design work could take two years. The duration for the construction work has not been determined. However, it is anticipated construction would begin after the start of Interim Revenue Service in 2020. HART has acknowledged that utility work must be carefully designed and coordinated so as to not affect train operations.
 - HART and HECO have executed a Construction Services Agreement for the AGS and CCGS segments of the Project. HART's contractors must perform the relocation work for the 138 kV lines due to unavailability of HECO crews. HART will bear all costs of the relocations.
- Operations and Maintenance –
 - The City's Department of Transportation Services (DTS) is developing an organizational chart and staffing plan. Their initial plan consists of a hybrid organization that pulls staff from each of the four DTS divisions and other City departments. The FY2019 proposed budget includes 10 DTS positions dedicated to rail. However, a new position of Deputy Director of DTS position will be created that will be the lead for rail operations and maintenance. This will not occur until FY 2020.
 - The projected Interim Opening is scheduled for December 2020. The PMOC has expressed concern that the transition plan may not be adequately developed, and sufficient resources may not be allocated, to support pre-revenue testing and revenue operations. In addition, the PMOC recommends that interim passenger service startup be treated as a first revenue service date and all required reviews and certifications including an OP-54 Readiness for Revenue Service review be completed. The PMOC has discussed this recommendation with HDOT's State Security and Safety Program Manager. HDOT has stated that this will take place. Additionally, DTS and HART are developing an MOU for the transition of O&M activities. HART has recently tasked its new Rail Activation Manager (Steve Stowe) to work with DTS.

- Development of a roadmap is critical and should be made a priority. The O&M Roadmap is being integrated into Rail Activation Plan (RAP). A draft RAP will be provided to FTA and the PMOC when completed. As previously reported, no target date has been provided. The new DTS Director of Readiness and Activation is scheduled to start on October 1, 2018. Development of the RAP would be one of the new Director's key responsibilities. In addition, DTS has identified a senior staff member who will be responsible for revising the RFMP, provide input into the RAP, and develop the Roadmap. DTS informed the PMOC that it anticipates issuing an NTP to a consultant to develop a bottoms-up estimate for the O&M effort. DTS will provide an update with schedule of milestones for the Rail Activation Plan at the November PMOC meeting.
- Management Capacity and Capability – HART continues to experience significant turnover of key management staff. According to its August 2018 monthly report, HART is recruiting to fill several management positions, three of which are key positions noted in the following table: HART informed the PMOC that its Chief Fiscal Officer resigned. HART is considering filling this position internally with the incumbent Grants Manager. HART has identified a possible internal replacement for the Grants Manager, which the HART CEO is evaluating.

| Position | Status |
|--|---|
| Project Controls Manager (PCM) | This position is filled and will start on October 29, 2018. |
| Director of Readiness and Activation | Candidate (Steve Stowe) started on October 1, 2018. |
| Director of Planning, Permitting and ROW | HART is reviewing its organizational needs to determine if this position can be eliminated. |
| Chief Fiscal Officer | Filling this position from within is being considered. |

- HART addressed Management Capacity and Capability in the updated Project Management Plan, which was baselined January 31, 2018. This was the first formal update of the PMP since FFGA. HART stated it plans to submit a revised PMP with the Recovery Plan by November 20, 2018. The revised PMP will include updated organization charts.
- The PMOC continues to recommend that HART implement an independent claims management group. Currently, HART has two on-call consultants and some in-house resources (technical and Corporation Counsel). However, it is anticipated that these resources will not be sufficient to address all potential issues that may arise on this project.

2.0 BODY OF REPORT

2.1 Project Status

Project progress as reported by HART against the current EAC and target RSD is reflected in the following table.

| Project Progress | Reported Completion | Planned Completion* |
|------------------|---------------------|---------------------|
| Overall | 44.8% | 44.2% |
| Design | 76.9% | 70.3% |
| Construction | 39.1% | 38.9% |

*Based on HART's S-curve late plan with data as of August 31, 2018.

Section 2.1.2 and Appendix B of this report provide the status of the current design and construction contracts.

2.1.1 Status of Procurement

- DB 550 – City Center Guideway and Stations – P3 has been selected for this segment, and an RFP was issued on September 28, 2018. The PMOC remains concerned the delay in posting this procurement (the alternative and originally planned Design-Build approach to CCGS was to be posted in August 2018) will impact the critical path.
- DBB 511 – City Center Utilities and Roadway (CCUR) – Awarded to NAN Inc. on May 4, 2018 for \$400 million, which was the current amount included in the Estimate-at-Completion (EAC). NTP was May 31, 2018. Eight Task Orders were issued through August 2018. Three Task Orders for wet utilities were issued in September 2018. Contract substantial completion remains May 13, 2022.
- FD 700 – Design Services for 138 kV Utilities Relocation at KHG – The award date was August 1, 2018 with NTP on August 16, 2018. The contract duration is just over three years. Award amount is \$8,766,327.
- DB 275 – Pearl Highlands Parking Garage & Transit Center, and H2 Ramp – HART has decided to include this contract within the P3 procurement.
- Public-Private Partnership (P3) – HART hired Ernst & Young as a subconsultant under the Program Management Support Consultant (PMSC) contract to assist with evaluating market sounding and feasibility of P3 options.
 - The HART Board approved using a P3 approach for the CCGS (DBB 550) and the PHGTC (DB 275) on September 27, 2018. The following chart shows the P3 milestone schedule to NTP.

| P3 TIMETABLE | |
|--|---------------------------|
| Activity | Date (A) = actual |
| HART Board approve the P3 delivery plan for CCGS and PHGTC | 09/27/2018 (A) |
| HART issue RFP Part 1 (qualifications) | 09/28/2018 (A) |
| Pre-Proposal Conference scheduled | 10/15/2018 (1:30 p.m. HT) |

| | |
|---|---------------------------|
| RFP Part 1, Notice of Intent to Bid | 11/30/2018 |
| RFP Part 1, Deadline for requests for clarification | 11/30/2018 |
| RFP Part 1, Issue final addendum for RFP Part 1 | 12/07/2018 |
| RFP Part 1, Qualifications proposals due | 12/21/2018 (2:00 p.m. HT) |
| RFP Part 2, Issue DRAFT RFP Part 2 | 01/25/2019 |
| RFP Part 2, Technical proposal due date | 07/22/2019 (2:00 p.m. HT) |
| RFP Part 2, Price proposal due date | 08/26/2019 (2:00 p.m. HT) |
| Award notice | 09/30/2019 |

s procured the following consultant services for the P3 approach:

- Legal Advisor – Award July 10, 2018, NTP issued on August 3, 2018.
- Financial Advisor – Award August 31, 2018, NTP September 17, 2018.
- HART has indicated a procurement could be developed that allows for DB contracting of CCGS & PHGTC if it is determined during P3 negotiations that Design-Build-Finance-Operate-Maintain (DBFOM) is not feasible due to financing costs or O&M considerations. This would allow HART to evaluate and award a DB contract to one of the proposing P3 teams. HART stated that it used over 50 days of the 12 months of float by holding off on the DB procurement pending a P3 decision. HART believes the P3 approach would result in gaining back all or most of the lost float.
- Following a recommendation by the PMOC at the June 2018 meeting, HART began a risk assessment of the P3 approach. The outcome of this risk assessment was included in the P3 White Paper, which indicated modest cost reductions under the P3 approach when compared to DB delivery. In year of expenditure (inflated) dollars, the P3 delivery approach is estimated to result in about \$360 million in reduced operating costs over the 30-year term and \$50 million in reduced construction costs for CCGS and PHGTC; however, it must be noted that any potential savings from P3 are based on parametric analyses only.² HART has not completed a bottoms-up cost estimate nor has it incorporated a detailed P3 scenario into its MPS to assess impacts on the Revenue Service Date (RSD).

2.1.2 Status of Primary Construction Contracts

- DB-120 – **West Oahu/Farrington Highway (WOFH) Guideway Design-Build (DB) Contract** and DB 320 – **Kamehameha Highway Guideway (KHG) DB Contract**
 - Closeout of the contracts cannot occur until all major unresolved work has been satisfactorily completed, including but not limited to, the tendon issue. The Contractor anticipates completing all punchlist work by the end of November 2018. A closeout agreement may be executed by the end of 2018.
 - A monitoring plan for the tendons is being finalized. The plan would include:
 - contractor provided acoustical monitoring for 20 years
 - contractor provides a 20-year extended warranty
 - An agreement has been proposed and is being routed for approvals.

² Parametric Analysis, as compared to a non-parametric analysis, assumes more about a given population than non-parametric methods do. When the assumptions are correct, parametric methods yield more accurate estimates; however, when the assumptions are incorrect, the results have a greater chance of failing.

- **DB-450 – Airport Guideway and Stations (AGS) DB Contract -**
 - Contract is approximately 29.3% complete. Late Plan completion is 24.4%.
 - Overall design is approximately 93% complete.
 - Contract substantial completion date is May 2021. Contract remains on time.
 - HART, STG, and HECO are working together to complete the required infrastructure and electrical design to complete electrical construction by zone in order to meet STG's schedule; HART and STG hold weekly meetings with HECO.
 - Production shafts, column construction, and casting segments are continuing.
 - First of three gantries are being erected.
- **DBB-511 – City Center Utilities and Roadway (CCUR) –**
 - Contract was awarded to NAN Inc. on May 4, 2018 for \$400 million.
 - Contract substantial completion date is May 2022.
 - Eight Task Orders were issued through August 2018. Three wet utilities Task Orders were issued in September.
 - Establishment of construction yards continues.
 - Contractor conducted layout and probing activities on executed task orders.
 - Agreement reached with HECO to allow micro tunneling along Dillingham for 138kV lines. Open trench still required for 46kV lines.
- **DBB-171 – West Oahu Station Group Construction Contract –**
 - Contract is approximately 60.4% complete. Late Plan completion is approximately 65.6%.
 - East Kapolei Station is 54% complete
 - UH West O'ahu Station is 72% complete
 - Ho'opili Station is 67% complete
 - The schedule updates indicate the contract is 11 months behind plan. HART is working with the contractor to determine mitigation strategies and to identify station access dates for the CSC contractor. Nan, Inc. and Ansaldo are subdividing requirements to allow Ansaldo's CSC work to start.
 - Contractor submitted a claim; HART stated Time Impact Analysis #5 will extend the substantial completion date from July 2018 to June 2019.
 - HART and the Contractor's schedulers now meet monthly to discuss the schedule.
 - Canopy erection is a key issue on this contract. HART reported the canopy schedule:
 - First arm to ship 10/26/18
 - Other ship dates range from 11/18 to 3/19
 - Canopy fabrication is on-going.
- **DBB-271 – Farrington Highway Station Group Construction Contract –**
 - Contract is approximately 71.2% complete. Late Plan completion is approximately 64.8%.
 - The schedule update indicates the work is 3 months behind plan. HART is working with the contractor to determine mitigation strategies and to identify station access dates for the CSC contractor.
 - The contractor has submitted a claim, and a decision by the contracting officer is pending. By mutual agreement, the contractor and HART will enter mediation in September 2018. A second mediation is scheduled for November 1, 2018. Canopy fabrication is a critical item. The Contractor confirmed all canopy fabrication would be complete by the end of 2018.

- **DBB-371 – Kamehameha Stations Group Construction Contract –**
 - Contract is approximately 37.2% complete. Late Plan completion is approximately 61.6%.
 - The work is 4 months behind the current contract completion date. HART is working with the contractor to enable CSC contractor to do its work. HART has approved compensated overtime to recover schedule: Working +2 hrs daily and 8 hrs on Saturday
 - The contractor has submitted a delay claim, and a decision by the Contracting Officer is pending. The contractor has requested mediation. A stay on the Contracting Officer’s decision has been granted until October 31, 2018.
 - On August 22, 2018, the first Partnering Session was held.
- **MI-900 – Fare Collection System Contract –**
 - Contract is approximately 28.6% complete (no change from last month). Late Plan completion is 40.9%. The schedule update indicates the work is 7 months behind plan. The Field Integration Test (FIT) originally scheduled for April 2018 is delayed due to an issue with cash reconciliation software. HART anticipates completing the FIT by October 31, 2018 (two week delay from last month).
- **MI-930 – Elevators and Escalators Manufacture-Install-Maintain Contract –**
 - Contract is approximately 28.3% complete. Late Plan completion is pending a determination of access dates; and, as a result, HART could not determine the extent of delay.
 - A revised baseline schedule will need to be prepared at a later date once the P3 contracts for the east portion of the guideway are awarded.

2.1.3 Status of Core Systems Contract

- Contract is approximately 57.1% complete. Late Plan completion is approximately 49.8%.
- Most design is complete with exception of Communications, which is delayed. Lack of resources within AHJV and its communications subcontractor, Nokia, have contributed to the design delay. The Nokia Communications Design continues to be a concern. Ansaldo met with the head of Nokia in late September 2018 on this issue. This meeting also included Bob Good from HART.
- AHJV has informed HART that additional resources are being sought to accelerate the design.
- Schedule – At the August 15, 2018, oversight meeting, HART stated that it established the Revision “H” schedule as AHJV’s baseline schedule. HART noted that this schedule was agreed to by HART and AHJV three years prior (2015).
 - Milestone Schedule:
 - MSF Yard functional - Q4 2018
 - Functional Track Testing - Q3 2019
 - Interim System Opening - December 2020
 - Full System Opening - December 2025

- HART has indicated that negotiations to settle delays for opening of Segment 1 (Interim Opening) are progressing slowly. It is anticipated that a separate settlement will be required to resolve delays for opening of Segment 2 (full RSD).
- HART met with Ansaldo in late August 2018 to discuss (1) Overall Status of the work, (2) O&M, and (3) P3 procurement. Resolving the delay claim was also discussed and how to improve Ansaldo's overall performance on the project. HART believes that Ansaldo's interest in participating in a potential P3 procurement would provide incentive to resolve the claim. HART remains optimistic the claim could be resolved by the end of 2018.
- Ansaldo has assigned a new project principal and is looking for a new Project Manager.
- Ansaldo identified a new organization chart. The Project Director will have two direct reports, (1) Management Lead and (2) Quality Lead.
- SCADA interfaces are lagging. Test procedures are needed. Ansaldo's Australian division has been brought in to mitigate this.
- AHJV still has several critical positions that are staffed by offsite personnel or are open (and filled on an interim basis). HART has asked AHJV for target dates to fill all positions with permanent onsite staff.
 - Construction Safety and Security Manager – Filled on conditional basis for 90 days. Will not be kept on last day is September 28. AHJV has identified Bob Morgan to fill this role through the end of the year, HART sees this as acceptable.
 - Operations Safety Manager - AHJV informed HART it intends to release this person. HART disagrees. Further discussions between HART and AHJV will occur.
 - Automatic Train Operations Specialist – New position to be filled.
 - Commissioning Manager – Filled on interim basis.
- Buy America – Post-delivery audit of LRVs is ongoing. Issues have arisen with the interior panels on the vehicles because they are foreign made. Ansaldo has identified a Buy America expert who is now involved in the contract. The interior panels will be replaced, and this should bring the vehicles into compliance with Buy America requirements.
- Construction –
 - MSF communication equipment installation continues.
 - Continued installation of Train Control wayside equipment on the guideway.
 - Installation of Platform Screen Gates (PSG) began in July 2018.
 - The following occurred in September 2018:
 - Train No. 3 was assembled, coupled, levelled and weighed at the MSF.
 - AHJV continues with production of Trains No. 4 through 9 in Pittsburgh, Ca
 - AHJV anticipates all car bodies would be in Pittsburgh, CA by the end of 2018. Interim acceptance testing would be performed in Pittsburgh, CA. Final testing would be in Hawaii.
 - PSG installation at the Ho'opili Station
 - Forecast to start in October 2018:
 - Obtain Train No. 2 Interim Certification to begin Dynamic Testing on a powered Guideway.

- PSG installation at the West Loch Station
- Testing –
 - West Loch ATC testing is ongoing.
 - MSF track energization test was performed in May 2018. However, full energization has yet to occur. AHJV intends to have MSF yard functional by the end of 2018.
 - MSF SCADA hardware inspection and test commenced.
- Light Rail Vehicles (LRVs) – Train Delivery Schedule first ten of 20 trains:

| Train # | Forecast Ship Date from Pittsburg, CA | Forecast Delivery to HART's MSF | Actual Delivery |
|---------|---------------------------------------|---------------------------------|-----------------|
| #1 | Shipped | Delivered | 16 April 16 |
| #2 | Shipped | Delivered | 23 May 17 |
| #3 | Shipped | Delivered | 6 August 18 |
| #4 | Sep 2018 | Nov 2018 | |
| #5 | Oct 2018 | Dec 2018 | |
| #6 | Nov 2018 | Jan 2019 | |
| #7 | Nov 2018 | Feb 2019 | |
| #8 | Jan 2019 | Feb 2019 | |
| #9 | Mar 2019 | Mar 2019 | |
| #10 | Apr 2019 | Apr 2019 | |

- Hitachi Rail USA, Inc. (HRU) is continuing with the production of trains #4 through #9 in Pittsburg, CA.
- HART performed a post-delivery Buy America audit of LRVs in June 2018. This is critical since AHJV is reporting 60.7% US content and has only delivered 2 of 40 LRVs. The PMOC and FTA attended the audit. HART anticipated completion of the audit report in August 2018. This date was not met. Post-Delivery audit to be submitted in October citing need for corrective action.
- HART conducted face to face meeting with ANSALDO/Hitachi Rail Italy PV Project Manager and Project Engineer to address design, production, test, schedule and Buy America Audit issues.
- Retrofit of the six car shells' underframes continues in Italy. Five of the six are complete. Two were shipped to Pittsburgh, CA for assembly. Remaining two to be in Pittsburg facility by end of October.
- HART planned to initiate formal passenger vehicle dynamic tests of Train #1 on powered guideway in July 2018. Also, for July 2018, HART planned to obtain for Train #2 interim certification to enter dynamic testing on powered guideway. HART's August 2018 Monthly Progress Report indicates these tests were not initiated. Dynamic "Set-up" testing is complete on Train #1. Passenger Vehicle (PV) Acceptance tests for train #1 was scheduled to start in October.

2.1.4 Real Estate Acquisition

- Real estate risk for the project remains significant. While the delay risk has been reduced by an aggressive condemnation schedule, the financial risk has likely increased.

- HART has split the Center City Appraisals into two groups. HART has prepared new appraisals of properties within City Center alignment that were sent to FTA for review. FTA concurrence is complete for Group 1 with the exception of one parcel at the Otani property. The owner has requested the total acquisition of the parcel, and HART intends to seek FTA concurrence for the complete purchase of the real estate, and relocation of the business. Group 2 appraisals were scheduled to be completed by the end of September with the exception of one property, PID 437 Pacific Guardian Center). This parcel has been sent out for a revised appraisal based on changed impacts to the property. Per the PMOC recommendation, HART provided FTA with a list of the parcels and details on complicated parcels, so FTA can prepare for the influx of reviews that are needed.
- Lee Property – Lee parcel has not been remediated by the terms of a court settlement. Owner has taken no action on the cleanup. HART will be seeking relief from the court to take action to clean site as needed to prevent any impact to their contractor. HART asked the court to step in and permit HART to perform the cleanup and seek reimbursement from the Lees. The construction schedule is not being impacted by the delay at this time. Court action is still open.
- International Express –Negotiations are continuing for a resolution of this parcel. The project earlier provided the business a notice to vacate. Subsequently the business leased a parcel of land and incurred various professional services costs to develop the new site as their replacement. It now appears that the business can remain at the present site. HART has determined that they likely must pay the incurred costs since they had directed the business to move from the site. The extent of these reimbursements are being negotiated. Additionally, since HART has acquired the project site, it will need to re-convey the property to International Express, less the interest it must maintain for project use. This is a disposition, so working through the FTA is the proper course.
- Howard Hughes –The parcel referred to as “Howard Hughes” consists of various land tracts under a common ownership. The property is being redeveloped as Ward Village, a mixed-use high-quality development. Certain of the residential towers are completed or underway along with some supporting commercial areas. This group of tracts represents the largest real estate dollar-risk on the project. Howard Hughes has informally discussed valuations as high as one-hundred million more than the present offer, although no formal demand has been stated. The HART offer has just been sent to the owners, so this matter will begin to move forward. HART has attempted to accommodate the owner’s wishes as to design and the type of takings. The takings will be in the form of permanent easements to permit the owner to retain Floor Area Ratio development rights and use the easement areas for other zoning purposes. HART is scheduled to go to the Board of Directors on September 27, 2018 to seek authorization to file eminent domain.
- D.R. Horton – D.R. Horton, a large-scale developer, owns several hundred acres proposed for mixed-use surrounding the West Oahu Station. The project anticipates Horton conveying the needed property rights for little or no consideration. These rights will address the needed real estate for the station and guideway. However, DR Horton has several demands prior to transfer, which will be described here in the next report. The ongoing construction at the site continues under terms of a right of entry

executed by Horton. Final resolution of the issues delaying a transfer of fee and easement interests is anticipated in the next several months.

The single biggest hurdle to resolution of this matter involves land exchanges for the permanent commuter parking lot adjacent to the station. The parking lot situation is complex: The State of Hawaii through its Department of Land and Natural Resources, DLNR, owns the land which HART will lease to construct the permanent parking lot. However, DLNR will only lease to HART if it receives certain adjacent parcels from Horton. DLNR also wishes to retain its airspace rights over the parking lot for its future use. DLNR has asked HART to facilitate the transactions necessary to meet its demands. The transfers and development will likely mean there will be an interim configuration of the parking lot, and then a final layout as the development of the property progresses. Another unresolved issue involved in the transaction is which party will bear the cost to bring utilities to the property. Until all of these matters are negotiated, the lease and transfer of other interests cannot occur. HART cannot condemn the DLNR property, so it must develop a solution.

- HECO – Design of the undergrounding 138kV line along CCGS is ongoing and must be sufficiently developed to identify additional parcels that are needed. The project has agreed to various utility adjustments with the Hawaii Electric Company (HECO) and will require substitute easements to allow the placement of the conduits and wires. At various times, this was estimated to be up to one-hundred easements. The number has now been reduced and based on the latest information, it appears that HART will acquire only five new easements on behalf of HECO.

2.1.5 Third Party Agreements and Coordination

Appendix F includes a table with the status of all pending third party agreements.

2.1.6 Utilities

Following are updates related to Hawaiian Electric Company (HECO):

- HECO has a collective bargaining agreement that has different wage scales and allows payment to its labor forces biweekly, which is pending a finding whether HECO wage scales are subject to Davis-Bacon. HECO wage scales do not conform to Davis-Bacon. HECO has requested a waiver that was denied by the United States Department of Labor (DOL), although HECO has appealed. The DOL issued a final decision affirming its initial decision denying the addition of wage classifications. The final decision was received on June 5, 2018. On August 8, 2018, HART sent a letter to the DOL stating it would not seek further review. HART believes this DOL decision will result in additional costs for the Project, and HART has requested an estimate from HECO.
- HECO 46kV Substation near MSF area – HECO indicated a need in the 2018/2019 timeframe for a new 46kV substation to feed the MSF area due to requirements in HECO Rule 13 for line extensions and substations.
- Hawaiian Electric Company (HECO) Horizontal Working Clearances Analysis –
 - West Oahu/ Farrington Highway (WOFH) and Kamehameha Highway (KHG) Segments – Approximately 1.5 miles of 138kV lines along WOFH and KHG

must be placed under ground (under-grounded) due to working clearance issues. HART intends to complete this work using design-bid-build (DBB). Procurement of design services is underway with proposals due in August 2018. A limited NTP was issued September 7, 2018. It is anticipated that the design work could take two years. The duration for the construction work has not been determined. However, it is anticipated construction would begin after the start of Interim Revenue Service in 2020. HART has acknowledged that utility work must be carefully designed and coordinated so as to not affect train operations.

- HART and HECO have executed Construction Services Agreements for AGS and CCGS. HART's contractors must perform the relocation work for the 138kV lines due to unavailability of HECO crews. HART will bear all costs of the relocations.

2.1.7 Environmental Mitigation Measures

- Proposed Design Changes/Refinement – HART is considering several proposed design refinements that may require additional environmental review. FTA and HART hold meetings, as needed, to discuss the status of any potential changes. HART has submitted or will submit information on each proposed change for FTA to determine the level of documentation required to assess impacts and subsequent mitigation measures:
 - LCC TPSS / HECO Service Vehicle Parking – FTA review is pending.
 - Emergency Generators – Final review is pending. This Post-ROD is becoming more critical. HART has inquired as to the status of the review by FTA. HART indicated that Emergency Generators would be installed before Interim RSD.
 - City Center Casting Yard – Letter of no adverse impact from SHPD is pending.
- Antennae Relocation – FCC approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) in July 2017 for the Keehi Interchange location. The Keehi Interchange location is active as of August 18, 2017. The FCC is requiring an EA be completed for the Nimitz Highway Tower Relocation, which is scheduled to be in place by the end of 2018.

2.2 Project Management Plan (PMP) and Sub-Plans

HART is in the process of updating key management plans. These updates are necessary due to HART organizational changes and the contract packaging changes that are being implemented. It is critical for HART to update these plans and procedures soon. Following is the status of all management plans:

| Plan | Rev. | Date Approved | Status |
|--|------|-------------------|------------------------------|
| Before-and-After Study Plan | 0.0 | January 4, 2018 | Approved/Baselined |
| Bus Fleet Management Plan (BFMP) | 4.0 | January 4, 2018 | Approved/Baselined |
| Buy America Plan (BAP) | 2.0 | December 6, 2017 | Approved/Baselined |
| Configuration Management Plan (CFMP) | 3.0 | February 28, 2018 | Approved/Baselined |
| Construction Management Plan (CMP) | 3.0 | December 11, 2017 | Approved/Baselined |
| Construction Safety and Security Plan (CSSP) | 4.0 | December 7, 2017 | Approved/Baselined |
| Contract Packaging Plan (CPP) | 5.0 | December 13, 2017 | Approved/Baselined |
| Force Account Plan | 2.0 | December 7, 2017 | Approved/Baselined |
| HART Procurement Manual | 0.0 | December 13, 2017 | Approved/Baselined |
| Interface Management Plan (IMP) | 3.0 | January 12, 2018 | Approved/Baselined |
| Mitigation Monitoring Plan (MMP) | 2.0 | January 4, 2018 | Approved/Baselined |
| Operation and Management Plan (OMP) | 1.0 | February 28, 2018 | Approved/Baselined |
| Preliminary Hazard Analysis (PHA) | 3.0 | December 7, 2017 | Approved/Baselined |
| Project Financial Plan (PFP) | 0.0 | December 24, 2012 | Update due 11/20/18 |
| Project Management Plan (PMP) | 6.0 | February 28, 2018 | Update due 11/20/18 |
| Public Involvement Plan (PIP) | 1.0 | December 6, 2017 | Approved/Baselined |
| Quality Management Plan (QMP) | 3.0 | February 23, 2018 | Approved/Baselined |
| Rail Activation Plan | 1.0 | January 4, 2018 | Update due end of year |
| Rail Fleet Management Plan (RFMP) | 1.0 | December 11, 2017 | Approved/Baselined |
| Real Estate Acquisition Management Plan (RAMP) | 6.0 | March 14, 2016 | Under internal review |
| Risk and Contingency Management Plan (RCMP) | 2.0 | March 6, 2018 | Approved/Baselined |
| Safety and Security Certification Plan (SSCP) | 6.0 | January 11, 2018 | Approved/Baselined |
| Safety and Security Management Plan (SSMP) | 7.0 | February 28, 2018 | Approved/Baselined |
| Sensitive Safety Information Plan | 1.0 | December 13, 2017 | Approved/Baselined |
| Staffing and Succession Plan | 5.0 | May 25, 2012 | Under internal review |
| System Integration and Test Plan (SITP) | 1.0 | December 7, 2017 | Approved/Baselined |

2.3 Management Capacity and Capability (MCC)

- HART has continued to experience turnover of key management staff. According to its August 2018 monthly report, HART is recruiting to fill several management positions. See Table below.
- HART informed the PMOC that its Chief Fiscal Officer resigned. HART is considering filling this position internally with the incumbent Grants Manager. HART has identified a possible internal replacement for the Grants Manager. HART's CEO is evaluating this suggestion.

| Position | Status |
|--|--|
| Director, Project Controls | Candidate will be on board October 29 2018. |
| Director of Readiness and Activation | Candidate hired; came on board October 1, 2018. |
| Director of Planning, Permitting and ROW | HART is reviewing organizational needs to determine if position can be eliminated. |
| Deputy Director of Planning | Evaluating internal candidates. |
| Fiscal Officer | Vacant – search active |
| Cost/Fiscal Analyst | Vacant - search active |
| Business Systems Manager | Vacant - search active |
| Computer Programmer | Hired - starts in October. |

- The PMOC continues to recommend that HART implement an independent claims management group. Currently, they have two on-call consultants and some in-house resources (technical and Corporation Counsel). However, it is anticipated that these

- resources will not be sufficient to address all potential issues that may arise on this project.
- HART addressed Management Capacity and Capability in the updated Project Management Plan, which was baselined January 31, 2018. This was the first formal update of the PMP since FFGA.
 - HART executive management has implemented some staffing changes with a goal of streamlining the organization and becoming more efficient in its decision making. However, the most recent update of the PMP does not fully address this review. The PMP will require additional updates to reflect any changes including implementation of P3 project delivery. HART confirmed the PMP will be updated and provided by November 20, 2018 as part of the required Recovery Plan that includes the P3 procurement plan..

2.4 Project Cost

- The **FFGA Project Budget** is \$5.164 billion in Year-of-Expenditure (YOE) dollars, which included \$644 million in allocated and unallocated contingency, \$173 million in financing costs, and \$42 million for post RSD finance charges.
- HART's **current EAC** is \$9.020 billion, including \$840 million in allocated and unallocated contingency and \$584 million in financing costs.
- Public-Private Partnership (P3) – In its continuing effort to pursue P3, HART has accomplished/plans to accomplish the following:
 - HART prepared a white paper that was discussed during the July 19, 2018 HART Board Meeting.
 - The project looked for approval of the P3 approach at the July 19, 2018 Board meeting, but the Board did not believe it was necessary for it to approve HART's approach to contracting.
 - HART approved P3 at its Board meeting on September 27, 2018.
 - HART has procured a Legal Advisor through a July 10, 2018 contract award.
 - HART is working to procure a Financial Advisor by awarding a contract in October 2018.
 - HART must incorporate P3 scenario into its MPS to assess impacts to the RSD under the P3 approach when compared to DB delivery for CCGS and the Pearl Highlands Garage and Transit Center (PHGTC)., HART issued RFP Part 1 for a P3 contract on September 28, 2018
 - HART has indicated a P3 procurement could be developed that allows for DB contracting for CCGS and PHGTC; however, if it is determined later that Design-Build-Finance-Operate-Maintain (DBFOM) approach is not feasible due to financing costs or O&M considerations, HART could award a DB contract to one of the proposing P3 teams.
 - HART stated that it used over 50 days of the one year float by holding off on the DB procurement pending a P3 decision. HART believes the P3 approach would result in gaining back all or most of the lost float.

- Following a recommendation by the PMOC at the June 2018 meeting, HART began a risk assessment of the P3 approach. The outcome of this risk assessment was included in the P3 White Paper, which indicated modest cost reductions under the P3 approach when compared to DB delivery. In year of expenditure (inflated) dollars, the P3 delivery approach is estimated to result in \$360 million in reduced operating costs over the 30-year term and \$50 million in reduced construction costs for CCGS and PHGTC; however, it must be noted that any potential savings from P3 are based on parametric analyses only.³ HART has not completed a bottoms-up cost estimate nor has it incorporated a detailed P3 scenario into its MPS to assess impacts on the RSD.
- DTS informed the PMOC that it anticipates issuing an NTP to a consultant to develop a bottoms-up estimate for the O&M effort. The timeline for this effort should be available for the November 2018 PMOC monthly progress meeting with HART.

HART expended \$51 million during July 2018, and has expended a total of \$3.283 billion through August 31, 2018.⁴

The following table provides a comparison of the FFGA budget and the Recovery Plan budget by Standard Cost Category (SCC) as well as the expended amounts. (Data as of August 31, 2018)

³ Parametric Analysis, as compared to a non-parametric analysis, assumes more about a given population than non-parametric methods do. When the assumptions are correct, parametric methods yield more accurate estimates; however, when the assumptions are incorrect, the results have a greater chance of failing.

⁴ HART's September 2018 Monthly Progress Report, page 10.

| SCC | Description | FFGA BUDGET | | | HART ESTIMATE AT COMPLETION | | | Incurred |
|--|---|----------------------|--------------------|----------------------|-----------------------------|--------------------|----------------------|----------------------|
| | | Base Cost | Contingency | Total | Base Cost | Contingency | Total | |
| 10 | Guideway & Track Elements (Route Miles) | 1,114,305,144 | 161,023,818 | 1,275,328,962 | 1,385,613,350 | 222,868,325 | 1,608,481,675 | 648,111,228 |
| 10.02 | Guideway: At-grade semi-exclusive (allows cross-traffic) | 0 | 0 | 0 | 17,378 | 0 | 17,378 | 17,378 |
| 10.04 | Guideway: Aerial structure | 1,022,380,670 | 152,947,514 | 1,175,328,184 | 1,243,170,339 | 214,668,325 | 1,457,838,664 | 558,994,537 |
| 10.05 | Guideway: Built-up fill | 0 | 0 | 0 | 0 | 0 | 0 | 5,054,744 |
| 10.06 | Guideway: Underground Cut and Cover | 0 | 0 | 0 | 0 | 0 | 0 | (1,228,000) |
| 10.08 | Guideway: Retained cut or fill | 7,492,943 | 584,450 | 8,077,393 | 0 | 0 | 0 | 0 |
| 10.09 | Track: Direct fixation | 79,437,204 | 6,894,823 | 86,332,027 | 142,425,633 | 8,200,000 | 150,625,633 | 81,347,320 |
| 10.11 | Track: Ballasted | 3,293,724 | 256,910 | 3,550,634 | 0 | 0 | 0 | 2,394,373 |
| 10.12 | Track: Special (switches, turnouts) | 1,700,603 | 340,121 | 2,040,724 | 0 | 0 | 0 | 1,530,876 |
| 20 | Stations, Stops, Terminals, Intermodals | 421,804,742 | 84,360,947 | 506,165,689 | 741,216,161 | 90,485,913 | 831,702,074 | 116,452,259 |
| 20.01 | At-grade station, stop, shelter, mall, terminal, platform | 6,111,333 | 1,222,266 | 7,333,599 | 4,956,181 | 8,505,325 | 13,461,506 | 5,291,487 |
| 20.02 | Aerial station, stop, shelter, mall, terminal, platform | 294,563,457 | 58,912,691 | 353,476,148 | 549,405,883 | 53,309,578 | 602,715,461 | 96,205,041 |
| 20.04 | Other stations, landings, terminal | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20.06 | Automobile parking multi-story structure | 66,408,765 | 13,281,753 | 79,690,518 | 121,609,473 | 26,632,475 | 148,241,948 | 0 |
| 20.07 | Elevators, escalators | 54,721,187 | 10,944,237 | 65,665,424 | 65,244,624 | 2,038,535 | 67,283,159 | 14,955,731 |
| 30 | Support Facilities: Yards, Shops, Admin. Bldgs. | 92,535,013 | 6,890,443 | 99,425,456 | 100,806,854 | 0 | 100,806,854 | 120,036,063 |
| 30.01 | Administration Building | 0 | 0 | 0 | 0 | 0 | 0 | 231,250 |
| 30.02 | Light Maintenance Facility | 7,591,887 | 569,392 | 8,161,279 | 3,057,240 | 0 | 3,057,240 | 7,582,704 |
| 30.03 | Heavy Maintenance Facility | 38,099,138 | 2,807,751 | 40,906,889 | 64,479,556 | 0 | 64,479,556 | 46,317,810 |
| 30.04 | Storage or Maintenance of Way Building | 7,797,460 | 584,810 | 8,382,270 | 8,619,230 | 0 | 8,619,230 | 8,892,739 |
| 30.05 | Yard and Yard Track | 39,046,528 | 2,928,490 | 41,975,018 | 24,650,828 | 0 | 24,650,828 | 57,011,560 |
| 40 | Sitework & Special Conditions | 980,569,426 | 123,297,838 | 1,103,867,264 | 2,265,225,781 | 278,511,641 | 2,543,737,423 | 812,863,145 |
| 40.01 | Demolition, Clearing, Earthwork | 29,980,157 | 4,715,645 | 34,695,802 | 33,446,029 | 1,038,000 | 34,484,029 | 23,611,018 |
| 40.02 | Site Utilities, Utility Relocation | 299,449,755 | 51,245,046 | 350,694,801 | 734,644,731 | 147,475,617 | 882,120,348 | 189,604,141 |
| 40.03 | Haz. mat'l, contam'd soil removal/mitigation, ground water treatments | 6,590,542 | 638,393 | 7,228,935 | 33,829,683 | 515,000 | 34,344,683 | 2,373,888 |
| 40.04 | Environmental mitigation, e.g. wetlands, historic/archeologic, parks | 26,979,122 | 3,862,784 | 30,841,906 | 5,518,864 | 0 | 5,518,864 | 11,391,864 |
| 40.05 | Site structures including retaining walls, sound walls | 7,998,960 | 638,622 | 8,637,582 | 21,764,985 | 6,884,511 | 28,649,496 | 14,352,281 |
| 40.06 | Pedestrian / bike access and accommodation, landscaping | 41,073,897 | 7,188,919 | 48,262,816 | 14,744,276 | 500,000 | 15,244,276 | 2,264,604 |
| 40.07 | Automobile, bus, van accessways including roads, parking lots | 181,979,369 | 30,556,812 | 212,536,181 | 264,497,187 | 29,320,905 | 293,818,092 | 53,658,937 |
| 40.08 | Temporary Facilities and other indirect costs during construction | 386,517,624 | 24,451,617 | 410,969,241 | 1,156,780,026 | 92,777,608 | 1,249,557,635 | 515,606,412 |
| 50 | Systems | 221,284,483 | 26,176,298 | 247,460,781 | 314,055,939 | 15,961,668 | 330,017,607 | 127,005,741 |
| 50.01 | Train control and signals | 81,982,556 | 9,509,976 | 91,492,532 | 157,077,732 | 7,756,522 | 164,834,254 | 44,266,728 |
| 50.02 | Traffic signals and crossing protection | 10,458,227 | 2,065,784 | 12,524,011 | 3,172,131 | 598,725 | 3,770,856 | 98,000 |
| 50.03 | Traction power supply: substations | 29,500,927 | 3,373,007 | 32,873,934 | 32,396,808 | 0 | 32,396,808 | 13,728,580 |
| 50.04 | Traction power distribution: catenary and third rail | 32,878,150 | 3,548,136 | 36,426,286 | 37,120,977 | 0 | 37,120,977 | 27,086,531 |
| 50.05 | Communications | 53,691,339 | 6,197,895 | 59,889,234 | 65,390,742 | 0 | 65,390,742 | 35,367,106 |
| 50.06 | Fare collection system and equipment | 9,159,277 | 1,062,476 | 10,221,753 | 15,087,206 | 7,606,421 | 22,693,627 | 3,765,289 |
| 50.07 | Central Control | 3,614,007 | 419,024 | 4,033,031 | 3,810,343 | 0 | 3,810,343 | 2,693,507 |
| CONSTRUCTION SUBTOTAL (10 - 50) | | 2,830,498,808 | 401,749,344 | 3,232,248,152 | 4,806,918,086 | 607,827,547 | 5,414,745,633 | 1,824,468,436 |

| SCC | Description | FFGA BUDGET | | | HART ESTIMATE AT COMPLETION | | | Incurred |
|------------|---|----------------------|--------------------|----------------------|-----------------------------|--------------------|----------------------|----------------------|
| | | Base Cost | Contingency | Total | Base Cost | Contingency | Total | |
| 60 | ROW, Land, Existing Improvements | 197,397,947 | 24,790,439 | 222,188,386 | 256,835,574 | 106,789,890 | 363,625,464 | 157,448,878 |
| 60.01 | Purchase or lease of real estate | 179,360,664 | 22,298,243 | 201,658,907 | 171,400,000 | 101,500,000 | 272,900,000 | 134,278,063 |
| 60.02 | Relocation of existing households and businesses | 18,037,283 | 2,492,196 | 20,529,479 | 85,435,574 | 5,289,890 | 90,725,464 | 23,170,815 |
| 70 | Vehicles | 186,829,020 | 21,672,166 | 208,501,186 | 211,389,952 | 0 | 211,389,952 | 91,990,218 |
| 70.01 | Light Rail | | | | 190,383,694 | 0 | 190,383,694 | 79,607,394 |
| 70.02 | Heavy Rail | 166,721,385 | 19,339,681 | 186,061,066 | 0 | 0 | 0 | 0 |
| 70.05 | Other | 0 | 0 | 0 | 128,700 | 0 | 128,700 | 493,700 |
| 70.06 | Non-revenue vehicles | 14,346,923 | 1,664,243 | 16,011,166 | 14,371,344 | 0 | 14,371,344 | 11,889,124 |
| 70.07 | Spare parts | 5,760,712 | 668,242 | 6,428,954 | 6,506,214 | 0 | 6,506,214 | 0 |
| 80 | Professional Services | 1,090,438,814 | 93,387,212 | 1,183,826,026 | 1,995,036,787 | 98,449,232 | 2,093,486,019 | 1,204,102,437 |
| 80.01 | Preliminary Engineering | 94,055,262 | 1,065,222 | 95,120,484 | 57,162,769 | 0 | 57,162,769 | 110,515,695 |
| 80.02 | Final Design | 228,321,632 | 29,613,276 | 257,934,908 | 584,149,899 | 31,512,697 | 615,662,596 | 300,153,629 |
| 80.03 | Project Management for Design and Construction | 366,458,463 | 19,367,231 | 385,825,694 | 668,557,925 | 29,851,833 | 698,409,758 | 458,755,740 |
| 80.04 | Construction Administration & Management | 199,656,728 | 18,499,024 | 218,155,752 | 278,640,420 | 28,220,008 | 306,860,428 | 198,154,699 |
| 80.05 | Professional Liability and other Non-Construction Insurance | 46,549,724 | 5,588,306 | 52,138,030 | 99,340,000 | 4,000,000 | 103,340,000 | 43,258,349 |
| 80.06 | Legal; Permits; Review Fees by other agencies, cities, etc. | 67,641,006 | 8,494,119 | 76,135,125 | 102,685,831 | 4,587,532 | 107,273,363 | 33,136,511 |
| 80.07 | Surveys, Testing, Investigation, Inspection | 21,759,335 | 3,195,992 | 24,955,327 | 141,686,622 | 277,162 | 141,963,784 | 11,648,196 |
| 80.08 | Start up | 65,996,664 | 7,564,042 | 73,560,706 | 62,813,321 | 0 | 62,813,321 | 48,479,618 |
| 90 | SUBTOTAL (10 - 80) | 4,305,164,589 | 541,599,161 | 4,846,763,750 | 7,270,180,399 | 813,066,669 | 8,083,247,068 | 3,278,009,969 |
| | Unallocated Contingency | 0 | 101,871,170 | 0 | 0 | 81,807,124 | 81,807,124 | 0 |
| 100 | SUBTOTAL (10 – 90) | 4,305,164,589 | 643,470,331 | 4,948,634,920 | 7,270,180,399 | 894,873,793 | 8,165,054,192 | 3,278,009,969 |
| 100 | Finance Charges | 173,058,242 | 0 | 583,707,000 | 583,707,000 | 0 | 583,707,000 | 4,609,277 |
| | TOTAL FFGA Project Cost (10 – 100) | 4,478,222,831 | 643,470,331 | 5,121,693,162 | 7,853,887,399 | 894,873,793 | 8,748,761,192 | 3,282,619,246 |

2.4.1 Contingency

The September 2017 Recovery Plan included \$1.1 billion in allocated and unallocated contingency. The December 21, 2017 submission includes \$862 million in allocated and unallocated contingency. HART's September 2018 monthly report (as of August 31, 2018) shows that HART expects \$840 million total contingency available at completion.⁵ HART used \$55 million in Allocated Contingency in the UTIL and UTIL 2 contracts.

The available unallocated contingency as reported by HART for the past several months is as follows:

| | | |
|-----------|------|---------------|
| August | 2017 | \$196 million |
| September | 2017 | \$162 million |
| October | 2017 | \$79 million |
| November | 2017 | \$79 million |
| December | 2017 | \$82 million |
| January | 2018 | \$85 million |
| February | 2018 | \$82 million |
| April | 2018 | \$82 million |
| May | 2018 | \$82 million |
| June | 2018 | \$82 million |
| July | 2018 | \$82 million |
| August | 2018 | \$82 million |
| September | 2018 | \$82 million |

As of May 25, 2018, HART indicated it reviewed its contingency allocations in order to build up its reserves. Thus, the continuous erosion of unallocated contingency that was evident in late 2017 has ended. This indicates that HART has both recognized the risks to the project and has begun implementing management controls to protect the contingency where possible. HART must continue this diligent control of the cost contingency.

2.4.2 Funding Sources

During Special Session in September 2017, the State Legislature passed Act 1, which provides additional funding to the City and HART to complete the Project as originally scoped. On Tuesday, September 5, 2017, the Governor of the State of Hawaii signed Act 1 into law, which:

- Authorized an extension of the 0.5% General Excise Tax (GET) surcharge three (3) years from December 31, 2027, to December 31, 2030; and,

⁵ HART's August 2018 Monthly Progress Report, page 13.

- Increased the state-wide Transient Accommodation Tax (TAT) by 1.0%, and dedicated the revenues from that increase to the capital costs of the Project.
- Decreased the State's administrative share of GET from 10% to 1% effective September 5, 2017.

Subsequent to the State action, the City Council adopted Ordinance 17-48 in support of the funding language in the bill, and the Mayor signed the same on September 7, 2017.

The following table presents the funding at time of FFGA and as presented in the September 2017 Recovery Plan, which reflects the legislative action discussed above.

| Source | (\$ in millions) | |
|------------------------------------|------------------|----------------|
| | FFGA | Recovery Plan |
| Beginning Cash Balance | 0 | 298 |
| Interest Income on Cash Balance | 7 | 3 |
| General Excise Tax (GET) | 3,358 | 5,873 |
| Section 5309 | 1,550 | \$1,550 |
| Section 5307 | 210 | 0 |
| ARRA | 4 | 4 |
| Transient Accommodation Tax (TAT) | 0 | 1,111 |
| City Subsidy - HART Administration | 0 | 160 |
| Additional Funds FY2018- FY2030 | 0 | 54 |
| Total | \$5,122 | \$9.053 |

2.5 Project Schedule

The table below presents the grantee's target dates for key milestones of this New Starts Project as identified in its MPS.

| Milestone Description | Finish Date |
|---|------------------|
| FTA Award Full Funding Grant Agreement (RSD) | January 31, 2020 |
| Interim Revenue Service (East Kapolei Sta. to Aloha Stadium Sta.) | December 2020 |
| Revenue Service Date (Segment 2/Full RSD) | December 2025 |

The current MPS includes approximately 12 months of contingency (minus the over 50 days lost due to the postponement of the DB CCGS contract).

The MPS requires revision as a result of re-packaging the remaining contracts into a P3 contract. HART has not incorporated details for a P3 scenario into MPS to assess impacts on the RSD. It is expected that HART's November Progress Report or

information provided at the PMOC's November 2018 monthly meeting will include a schedule reflective of the P3 procurement and its possible impact on the RSD.

Revision H is the baseline schedule for the CSC DBOM.

The following is a look ahead for important project oversight activities:

| Period: September 2018 – December 2018 | | |
|---|-----------------------|--------------------------|
| Activity | Responsibility | Date |
| Monthly Progress Meeting | FTA, HART and PMOC | September 12, 2018 |
| Monthly Progress Meeting | FTA, HART and PMOC | October 17, 2018 |
| Monthly Progress Meeting | FTA, HART and PMOC | November 14, 2018 |
| Monthly Progress Meeting* | FTA, HART and PMOC | *December 12, 2017 |
| RAMP Workshop | FTA, HART and PMOC | September 2018 |
| PMP/QMP Compliance Review | FTA, HART and PMOC | 3 rd Qtr 2018 |
| Rail Activation Readiness – MSF Automation | FTA, HART and PMOC | 4 th Qtr 2018 |
| *Scheduled to be a teleconference/Skype meeting | | |

2.6 Quality Assurance/Quality Control (QA/QC)

- **WOFH Tendons** – HART will meet with DTS and HDOT to discuss options for long-term inspection and monitoring. Kiewit and HART briefed HDOT on the tendon issue in July 2018. A monitoring plan for the tendons is being finalized. HART will brief at the November Monthly meeting.
- **LRV Underframe** – Material defect was identified during ultrasound testing of welds. The defect is with an aluminum extrusion part that makes up the vehicle under carriage. 8 of 27 frames require repair. Six frames have been returned to Italy for corrective action. LRV 1 was instrumented with strain gauges during dynamic testing in June 2018 to confirm assumptions on the loads of the LRV frame. Six frames were returned to Italy for corrective action. The corrective action is complete, and the LRVs should be in Pittsburgh, CA by the end of 2018. HART is looking for extended warranty for the frames on the 27 cars that were found to have the defect (note only eight frames needed repairs).
- During informal dynamic testing, an issue was identified with the third rail joints. There were isolated incidences of loss of contact between the LRV paddle and the third rail that prevented the LRV from achieving full speed. It was determined that approximately 15% of the joints had issues within the functional track section. Track grinding was completed on 800 feet of track to see if remedies the issue. Indications are the track grinding successfully mitigated the issue. HART is considering track installation options to avoid similar problems on yet to be constructed sections.
- **FHSG Elevator Steel Towers-** Two elevator steel towers at the Waipahu Transit Center Station are out of plumb by 3/8 inch. Corrective action is in progress.

- In future monthly reports, HART will describe the source of the new NCRs (HART or Contractor generated). HART will include the trend analysis report in future monthly reports.
- HART reported it has replaced five quality managers due to performance issues.

2.7 Safety and Security

- Safety Certification:
 - West Segment is 53% complete.
 - East Segment is 21% complete.
- HART and DTS are focusing on policing plan options since this may require much lead time and potential state legislative or city council action. This is a critical element that must be addressed soon to impact the start of interim service.
- AHJV Safety and Security Certification Manager is onsite approximately 10 days once every 6 weeks. An interim plan proposed by AHJV to address gaps in coverage in meeting system safety requirements has been accepted. This issue will be ongoing and monitored by HART Safety and Security and CSC. The PMOC strongly recommends the AHJV Safety and Security Manager to be on site full time since dynamic testing has started.
- AHJV started vehicle testing on approximately two-mile section of the WOFH Guideway. Initial approval by HDOT SOA, and SSRC limited speed of train to 25 mph. However, AHJV requested and received approval from HART (via Executive Director) to operate at 55 mph. Although informal notification was provided to HDOT, HDOT has noted that operating at speeds greater than 25 mph may be considered a “violation” since that was the limit identified in the Vehicle Aluminum Extrusion Corrective Action Plan submitted to HDOT. HDOT has expressed concern that proper protocol for amending the restriction and communicating with the SOA were not followed. HDOT and HART executive management met on this issue on November 17, 2017. HDOT is awaiting a response from HART since this was an identified in an HDOT Corrective Active Plan.
- Construction safety record continues to positive. Incident rate is well below national or local levels.
- HART will add an Incident Investigation Process to the Construction Safety Plan. This should be finalized in the next few months. A date certain was not given.
- AHJV still has several critical positions that are staffed by offsite personnel or are open (and filled on an interim basis). HART has asked AHJV for target dates to fill all positions with permanent onsite staff.
 - Construction Safety and Security Manager – Filled on conditional basis for 90 days. Will not be kept on, last day is September 28. AHJV has identified Bob Morgan to fill this role to the first of the year. This is acceptable to HART.
 - Operations Safety Manager- AHJV informed HART it intends to release this person. HART disagrees. Further discussion between HART and AHJV will occur.

- HART's Safety Manager and HDOT stated the work on the CSC would stop if these positions remain vacant. No deadline was given for filling the vacant positions. HART's CEO and Safety Manager stated that HART believes the positions would be filled.
- HDOT and their consultant completed an audit of the MSF safety certification. The report was scheduled to be finalized in July 2018. HDOT will provide FTA with a copy when available.

2.8 Buy America

- HART completed a post-delivery Buy America audit of the LRVs in June 2018. This is critical since AHJV is reporting 60.7% US content and has only delivered 2 of 40 LRVs. The FTA and PMOC attended the audit. Interior panels have been identified as not made in US, and will be replaced to insure compliance with overall percentage.
- Ship America –MARAD has confirmed via an email to HART that AHJV has executed a contract with a US flag carrier. HART must continue to monitor AHJV to ensure all Ship America requirements are satisfied throughout the duration of the contract.

2.9 Operations & Maintenance (O&M)

- DTS is developing an organizational chart and staffing plan. Their initial plan consists of a hybrid organization that pulls staff from each of the four DTS divisions and other City departments. The FY2019 proposed budget includes 10 DTS positions dedicated to rail. However, a new position of Deputy Director of DTS position will be created that will be the lead for rail operations and maintenance. This will not occur until FY 2020.
- The projected Interim Opening is scheduled for December 2020. The PMOC has expressed concern that the transition plan may not be adequately developed, and sufficient resources may not be allocated, to support pre-revenue testing and revenue operations.
- Development of a roadmap is critical and should be made a priority. The O&M Roadmap is being integrated into Rail Activation Plan (RAP). A DRAFT RAP will be provided to FTA and the PMOC when completed. No target date has been provided. The new HART Director of Readiness and Activation is scheduled to start on October 1, 2018. Development of the RAP would be one of the new Director's key responsibilities. In addition, DTS has identified a senior staff member who will be responsible for revising the RFMP, provide input into the RAP, and develop the Roadmap. DTS informed the PMOC that it anticipates issuing an NTP to a consultant to develop a bottoms-up estimate for the O&M effort. DTS has promised to provide a full briefing on the roadmap at the November 2018 meeting.

2.10 Project Risk

HART has developed a robust risk management program with support from its Program Management Consultant. They are using a bottoms-up risk modeling approach. The focus is primarily on construction contracts. PMOC has emphasized that HART must

still focus on soft costs and ancillary contracts since they can impact overall cost and schedule.

A Risk Refresh Workshop was held on February 27, 2018. Since the Risk Refresh Workshop, HART has continued to update the risk register. HART Risk Manager has identified additions and reductions that had not yet been captured in the EAC. HART Risk Manager and Project Controls Manager have been working towards reconciliation of the forecast and risk analysis. This will provide more confidence in HART's projection of cost and schedule completion.

Following a recommendation by the PMOC at the June 2018 meeting, HART began a risk assessment of the P3 approach. This risk assessment involved project controls and risk management staff from the project. The results of this effort were included in the White Paper that was used to help inform the decision of the HART Board of Directors to go to a P3 for the Center City section and the PHTC.

HART's Risk Manager:

- Reports risk updates by project on a monthly basis. The latest monthly update was in August 2018; and
- Performs a model update of the program on a quarterly basis. The latest quarterly update was September 2018.. In its September 2018 Monthly Progress Report, based on August 2018 risk data, HART reported:
- An 80% confidence level that the project will be completed at or below \$8.012 billion, which is within the overall project budget of \$8.165 billion. The cost at completion forecast is decrease of \$125.8 million over the prior update due to a reduction of risk forecast for the potential impacts of tariffs, and several risk reductions on the AGS project due to good progress on the work.
- The 65% confidence level for completing the project by the full RSD of December 2025 will not be met. Instead, the 65% confidence level shows a 1.1-month delay from December 2025 to February 2026. This result is based on using a Design-Build approach to project completion. HART reported that based on its analysis of the P3 approach to project completion, the December 2025 RSD may be attainable.

2.11 Action Item Table

| Item No. | Item | Responsible Party | Date Identified | Date Due | Date Completed | Status |
|-----------|---|-------------------|-----------------|-------------------|--------------------|--|
| 2.14.18-1 | Update Milestones / Drawdown Curves | HART | Feb 2018 | Jul 2018 | | Milestone update provided; drawdown curves added as new action item. |
| | | | | | | |
| 2.14.18-3 | Baseline updated PMP and all companion documents | HART | Feb 2018 | November 20, 2018 | | PMP baselined; three companion plans pending: Financial Plan, Staffing Plan, & RAMP. Updated PMP will be provided by 11/20/18 with adjustments for P3. |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 7.11.18-3 | LRV Buy America Post-Delivery Audit Report | HART | Jul 2018 | Aug 2018 | | HART reviewing DRAFT report; should be available 11/14/18. |
| 8.15.18-1 | Clarify source of NCR's in HART Monthly Report | HART | August 2018 | September 2018 | September 12, 2018 | Complete. Information included in HART's August 2018 Monthly Report to the PMOC. |
| 8.15.18-2 | HART response to Risk Refresh | HART | August 2018 | November 20, 2018 | | CEO has for signature; should be available on or before 20 Nov 18. |
| 8.15.18-3 | HART response to FTA comments on Recovery Plan | HART | August 2018 | November 20, 2018 | | Should be available by 11/20/18 |
| 8.15.18-4 | HART to provide budgetary information for Real Estate acquisition | HART | August 2018 | September 2018 | September 2018 | Discussed at the September 12, 2018 HART Monthly Progress Meeting. |
| 8.15.18-5 | AHJV Construction Safety Manager Status | HART | August 2018 | October 2018 | | Bob Morgan accepted to fill role through the first of 2019. |
| 8.15.18-6 | Roadmap to get to DTS O&M | DTS | August 2018 | September 2018 | | To be provided at 11/14/18 PMOC meeting. |

| Item No. | Item | Responsible Party | Date Identified | Date Due | Date Completed | Status |
|-------------|---|-------------------|-----------------|-----------------------------|----------------|---|
| 8.15.18-7 | Set up meeting with DTS- Public Transit Operations Division | HART | August 2018 | TBD | | Three meetings will be scheduled, (1) P3 scope, (2) DTS on transfer of DTS Scope to P3. There was a follow-up meeting week of 8-12, October, 2018 to go over all costs and term sheet. |
| 8.15.18-8 | Update CCGS Recovery Plan- \$134million | HART | August 2018 | TBD | | P3 selected and \$134 million will be added to cost. |
| 9.12.18-1 | Replace Fiscal Officer and Grant Manager | HART | | September 28, 2018 | | HART to discuss with its CEO. Honolulu City and County approval is required. |
| 9.12.18-2 | West Oahu Station Property Rights/ DR Horton | HART | | TBD | | DLNR wishes to retain its airspace rights over the parking lot for its future use. DLNR has asked HART to facilitate the transactions necessary to meet its demands. Cost to bring utilities to the property being negotiated. DLNR property cannot be condemned until all issues are resolved. |
| 9.12.18-3 | Tendon Monitoring Plan (Kiewit) | HART/DTS | | Bd. of Dir Mtg. 1 NOV 18 | | Executive decision document to CEO for signoff on a commercial settlement. Changes over \$1M go to the HART Board for approval. |
| 9.12.18-4 | SCADA test procedures | HART/AHJV | | tbd | September 2018 | AHJV assigned to its Australian subcontractor; SCADA test procedures accepted with comments |
| 9.12.18-5 | Makai Casting Yard FTA Comments | HART | | September 2018 | September 2018 | HART sent a response to FTA at the end of September 2018. |
| 9.12.18-6 | ROW Parcel Map | HART | | tbd | | Upload to secure on-line site. |
| 9.12.18-7 | HDOT requires HART's Safety and Security plan to include accident investigation procedure | HART | | December 2018 | | Draft plan provided to HDOT; parties met week of 8-12 October 2018; HDOT comments to HART. |
| 10.17.18-01 | Provide PMOC with copy of DTS- HART Memorandum of Agreement | DTS | | October 2018 | | |

| Item No. | Item | Responsible Party | Date Identified | Date Due | Date Completed | Status |
|-----------------|--|--------------------------|------------------------|-----------------|-----------------------|---------------|
| 10.17.18-02 | Briefing from Chris Clark – Schedule & PMP for DTS Rail Operations | DTS | | November 2018 | | |
| 10.17.18-03 | Provide PMOC with resume of new Project Controls Director | HART | | October 2018 | | |
| 10.17.18-04 | Provide PMOC with detailed Org Chart of Project Director's organization | HART | | October 2018 | | |
| 10.17.18-05 | Provide contingency drawdown curves in Monthly Report in November and at November oversight meetings | HART | | November 2018 | | |
| 10.17.18-06 | HART to add Key Issues to Project NCR Trend Analysis Chart in Appendix C of Monthly Report. | HART | | November 2018 | | |

3.0 APPENDICES

Appendix A: Acronym List

| | |
|------|---|
| AGS | ▪ Airport Guideway and Stations |
| AHJV | ▪ Ansaldo Honolulu Joint Venture |
| AIS | ▪ Archeological Inventory Survey |
| ARRA | ▪ American Recovery and Reinvestment Act |
| BAFO | ▪ Best and Final Offer |
| BCE | ▪ Base Cost Estimate |
| BFMP | ▪ Bus Fleet Management Plan |
| CCGS | ▪ City Center Guideway and Stations |
| CE&I | ▪ Construction Engineering and Inspection |
| CMP | ▪ Construction Management Plan |
| CPP | ▪ Contract Packaging Plan |
| CROE | ▪ Construction Right of Entry |
| CSC | ▪ Core Systems Contract |
| CSL | ▪ Cross-hole Sonic Logging |
| DAGS | ▪ Department of Accounting & General Services |
| DB | ▪ Design-Build |
| DBB | ▪ Design-Bid-Build |
| DBOM | ▪ Design-Build-Operate-Maintain |
| DCCA | ▪ Department of Commerce and Consumer Affairs |
| DHHL | ▪ Department of Hawaiian Home Lands |
| DLNR | ▪ Department of Land and Natural Resources |
| DOL | ▪ Department of Labor |
| EAC | ▪ Estimate at Completion |
| EIS | ▪ Environmental Impact Statement |
| FD | ▪ Final Design |
| FEIS | ▪ Final Environmental Impact Statement |
| FFGA | ▪ Full Funding Grant Agreement |
| FHSG | ▪ Farrington Highway Station Group |
| FPO | ▪ Federal Preservation Officer |
| FTA | ▪ Federal Transit Administration |
| FY | ▪ Fiscal Year |
| GEC | ▪ General Engineering Consultant |
| GET | ▪ General Excise Tax |
| GSA | ▪ General Services Administration |
| HART | ▪ Honolulu Authority for Rapid Transportation |
| HDOT | ▪ Hawaii Department of Transportation |
| HECO | ▪ Hawaiian Electric Company |
| IFB | ▪ Invitation to Bid |
| KHG | ▪ Kamehameha Highway Guideway |
| KHSG | ▪ Kamehameha Highway Stations Group |
| KIWC | ▪ Kiewit Infrastructure West Company |
| KKJV | ▪ Kiewit Kobayashi Joint Venture |
| LCC | ▪ Leeward Community College |
| LRV | ▪ Light Rail Vehicle |
| MCC | ▪ Management Capacity and Capability |
| MMP | ▪ Mitigation Monitoring Program |
| MOU | ▪ Memorandum of Understanding |
| MOW | ▪ Maintenance of Way |
| MPR | ▪ Monthly Progress Report (prepared by HART) |
| MPS | ▪ Master Project Schedule |
| MSF | ▪ Maintenance and Storage Facility |

| | |
|-------|--|
| NCR | ▪ Non-Compliance Report |
| NEPA | ▪ National Environmental Policy Act |
| NTP | ▪ Notice to Proceed |
| O&M | ▪ Operations & Maintenance |
| OCIP | ▪ Owner Controlled Insurance Program |
| OP | ▪ Oversight Procedure |
| P3 | ▪ Public Private Partnership |
| PHPS | ▪ Pearl Highlands Parking Structure |
| PMOC | ▪ Project Management Oversight Contractor |
| PMP | ▪ Project Management Plan |
| PMSC | ▪ Project Management Support Consultant |
| PSG | ▪ Platform Screen Gate |
| QA/QC | ▪ Quality Assurance/Quality Control |
| QAM | ▪ Quality Assurance Manager |
| QMP | ▪ Quality Management Plan |
| RAMP | ▪ Real Estate Acquisition and Management Plan |
| RCMP | ▪ Risk and Contingency Management Plan |
| RFB | ▪ Request for Bids |
| RFMP | ▪ Rail Fleet Management Plan |
| RFP | ▪ Request for Proposals |
| RFQ | ▪ Request for Qualifications |
| ROC | ▪ Rail Operations Center |
| ROD | ▪ Record of Decision |
| ROE | ▪ Right of Entry |
| ROW | ▪ Right of Way |
| RSD | ▪ Revenue Service Date |
| RWP | ▪ Roadway Workers Protection |
| SCC | ▪ Standard Cost Category |
| SOA | ▪ State Oversight Agency |
| SSCP | ▪ Safety and Security Certification Plan |
| SSMP | ▪ Safety and Security Management Plan |
| SSPP | ▪ System Safety Program Plan |
| SSRC | ▪ System Safety Review Committee |
| SSSPS | ▪ System Safety and Security Program Standards |
| STCC | ▪ Specification Testing Conformance Checklist |
| TBD | ▪ To be Determined |
| UH | ▪ University of Hawaii |
| USN | ▪ United States Navy |
| USPS | ▪ United States Postal Service |
| WOFH | ▪ West Oahu/Farrington Highway |
| WOSG | ▪ West Oahu Stations Group |
| YOE | ▪ Year of Expenditure |

Appendix B: Contract Status

| CPP | Description | Contractor | Original Contract Value | CCO | Current Contract Value | Expended | % Exp. | Award Date | Original Compl. Date | Rev Compl. Date | Notes |
|---------|---|---------------------|-------------------------|-------------|------------------------|-------------|--------|------------|----------------------|-----------------|---|
| DB120 | WOFH DB | KIWC | 482,924,000 | 183,640,458 | 666,070,659 | 665,951,982 | 100% | 11/11/09 | 10/21/13 | 03/03/17 | Closeout ongoing |
| DB200 | MSF DB | Kiewit/Kobayashi JV | 195,258,000 | 86,517,032 | 281,775,032 | 281,753,403 | 100% | 06/30/11 | 12/20/14 | 07/02/16 | Closeout ongoing |
| DB320 | KHG DB | KIWC | 372,150,000 | 20,503,848 | 392,320,216 | 392,116,041 | 100% | 06/30/11 | 10/15/14 | 09/30/17 | Closeout ongoing |
| DB450 | AGS DB | STG JV | 874,750,000 | (6,330) | 868,419,990 | 283,478,092 | 33% | 09/20/16 | 05/01/21 | 05/03/21 | |
| DBB171 | WOSG | Nan, Inc. | 56,088,470 | 6,023,576 | 62,112,046 | 35,965,920 | 64% | 07/20/15 | 03/12/18 | 06/30/19 | |
| DBB271 | FHSG | Hawaiian Dredging | 78,999,000 | 3,453,034 | 82,452,034 | 56,687,415 | 68% | 06/22/15 | 01/16/18 | 04/28/19 | |
| DBB371 | KHSG | Nan, Inc. | 115,805,845 | 2,897,388 | 118,703,233 | 43,553,403 | 37% | 01/27/16 | 05/17/19 | 09/30/19 | |
| DBB385 | Ramp H2R2 | Royal Contracting | 5,203,646 | 485,839 | 5,692,778 | 5,374,960 | 94% | 05/18/15 | 10/02/16 | 02/28/18 | |
| DBB505 | Airport Utilities DBB | Nan, Inc. | 27,993,290 | 726,200 | 28,719,489 | 28,719,489 | 100% | 06/30/14 | 02/06/16 | 10/07/16 | |
| DBB525 | Airport GW 7-Pier DBB | HDCC/CJA JV | 3,973,000 | 54,843 | 4,027,843 | 4,027,843 | 100% | 09/18/14 | 02/28/15 | 04/24/15 | Closed |
| DBB511 | City Center Utilities Relocation Construction | Nan, Inc. | 400,000,000 | 0 | 400,000,000 | 0 | 0 | 05/31/18 | 05/31/22 | 05/31/22 | |
| DBB602 | UHWO Temp PnR /Road B | Nan, Inc. | 11,589,300 | 1,222,740 | 12,812,040 | 3,389,942 | 26% | 12/15/17 | 7/16/2019 | | |
| DBOM920 | Core CSC DBOM | Ansaldo/Honolulu JV | 573,782,793 | 41,340,180 | 615,122,973 | 347,804,091 | 57% | 11/28/11 | 03/15/19 | 06/01/19 | Schedule will be revised to reflect CAM dates when better information is available. |
| FD140 | WOSG FD | AECOM | 7,789,000 | 5,642,995 | 13,431,995 | 11,959,627 | 89% | 06/15/12 | 11/14/16 | 11/30/19 | Term of contract until completion of services |
| FD240 | FHSG FD | AECOM | 9,300,696 | 7,197,120 | 16,497,816 | 15,031,000 | 91% | 01/12/11 | 11/14/16 | 11/30/19 | Term of contract until completion of services |
| FD340 | KHSG FD | Anil Verma, Inc. | 8,702,592 | 4,190,630 | 12,893,222 | 11,310,801 | 88% | 11/16/12 | 06/14/17 | 11/30/19 | Term of contract until completion of services |
| FD430 | Airport GW & Util. FD | AECOM | 38,840,960 | 4,111,440 | 42,952,400 | 42,135,829 | 98% | 12/22/11 | 06/30/17 | 06/30/17 | Closeout ongoing |
| FD440 | ASG FD | AECOM | 10,177,365 | (117,545) | 10,059,820 | 10,059,820 | 100% | 11/07/12 | 01/27/14 | 07/01/15 | Closeout ongoing |
| FD530 | CC GW & Util FD | AECOM | 43,948,220 | 13,941,087 | 57,889,307 | 51,660,985 | 89% | 07/30/12 | 04/30/18 | 09/30/19 | Combined with Dillingham and Kaka'ako Stations into DB Contract. |
| FD550 | DKSG FD | Perkins & Will | 18,321,918 | (6,008,218) | 12,313,700 | 12,253,081 | 99% | 08/08/13 | 11/01/14 | 01/15/16 | Closeout ongoing |
| MI900 | Fare Collection DFI | INIT | 15,464,198 | 361,470 | 15,825,668 | 4,518,351 | 29% | 4/18/2016 | 01/14/29 | 01/14/29 | |
| FD701 | KH Civil Design | Lyon Associates | 60,000 | 0 | 60,000 | 60,000 | 100 | 01/28/18 | 01/31/19 | 01/31/19 | |
| MI930 | Elevators & Escalators | Schindler | 50,982,714 | 2,387,902 | 53,370,616 | 14,955,731 | 28% | 07/31/13 | 05/01/18 | 05/17/19 | Schedule may be delayed due to revised CAM dates. |

| CPP | Description | Contractor | Original Contract Value | CCO | Current Contract Value | Expended | % Exp. | Award Date | Original Compl. Date | Rev Compl. Date | Notes |
|-------|-------------------------|-------------------|-------------------------|--------------|------------------------|-------------|--------|------------|----------------------|-----------------|-----------------------------------|
| MM290 | CEI West | PGH Wong | 54,232,480 | 36,000,000 | 90,232,480 | 66,186,116 | 73% | 01/09/14 | 01/08/20 | 01/08/20 | |
| MM595 | CEI East | AECOM | 63,083,417 | (50,377,317) | 12,706,100 | 12,711,366 | 100% | 01/07/14 | 01/06/19 | 01/06/16 | |
| MM596 | CEI East 2 | Stantec | 55,036,130 | 0 | 55,036,130 | 32,928,422 | 60% | 9/10/2015 | 12/31/19 | 12/31/19 | Option for up to 2-year extension |
| MM901 | PMSC-2 | HDR | 33,376,897 | 18,444,023 | 51,820,920 | 49,736,662 | 96% | 02/23/12 | 03/07/17 | 03/07/17 | Closeout Ongoing |
| MM902 | PMSC-3 | HDR | 63,522,953 | | 63,522,953 | 17,921,479 | 28% | 1/1/2017 | 12/31/22 | 12/31/22 | |
| MM905 | GEC 1 | PB | 0 | 79,171,852 | 79,171,852 | 74,157,822 | 94% | 8/24/2007 | 02/09/10 | 02/26/11 | Closeout Ongoing |
| MM910 | GEC 2 | PB | 150,226,265 | | 150,226,265 | 150,226,026 | 100% | 6/30/2011 | 12/31/14 | | Closeout Ongoing |
| MM913 | GEC 3 | CH2M | 46,143,277 | 17,630,381 | 63,773,658 | 50,362,703 | 79% | 12/05/13 | 04/04/19 | 04/04/19 | Option for up to 3-year extension |
| MM945 | On-Call Contractor | Royal Contracting | 1,000,000 | 1,000,000 | 2,000,000 | 1,993,468 | 100% | 08/06/14 | 07/06/19 | 12/08/16 | Closeout Ongoing |
| MM946 | On-Call Hazmat Removal | CH2M | 12,006,227 | 2,075,000 | 14,081,227 | 4,921,664 | 35% | 08/23/12 | 08/22/19 | 02/18/23 | |
| MM947 | On-Call Contractor 2 | Royal Contracting | 7,500,000 | | 7,500,000 | 7,496,271 | 100% | 5/21/2015 | 05/20/20 | 05/20/20 | |
| MM948 | On-call Contractor 3 | Royal Contracting | 20,000,000 | 6,000,000 | 26,000,000 | 23,033,981 | 89% | 05/09/16 | 05/12/23 | 05/12/23 | |
| MM949 | On-call Contractor 4 | Royal Contracting | 46,000,000 | 0 | 46,000,000 | 1,425,035 | 3% | 01/10/18 | 11/30/24 | 11/30/24 | |
| MM951 | OCIP | AON | 55,870,308 | | 55,870,308 | 39,357,621 | 70% | 4/9/2014 | 04/09/30 | 04/09/30 | |
| MM962 | CSC Support | Lea + Elliott | 43,988,989 | | 43,988,989 | 32,145,499 | 73% | 2/10/2014 | 09/09/19 | 09/09/19 | Option for up to 3-year extension |
| MM964 | Safety & Security Cons. | Lawson | 4,699,573 | 5,602,596 | 10,302,170 | 8,853,739 | 86% | 04/23/14 | 01/31/17 | 01/31/19 | |

Appendix C: PMOC Team

| Name | Position | Background |
|---------------------|---------------------------------|--|
| Michael Radbill, PE | Program Manager | Overall responsibility for Hill's PMO program. Mr. Radbill has over 40 years of technical and management experience in the construction of Federal, state, local, and private projects, which types include public transportation, power generation, petrochemical, correctional, military, aviation, commercial, hotel, and others. Mr. Radbill was Task Order Manager for oversight of major rehabilitation projects undertaken by the Washington Metropolitan Area Transit Authority. He was responsible for developing, updating, and analyzing critical path method (CPM) schedules; participation in resolution of construction disputes during negotiation, mediation, mini-trial, and trial; testifying as an expert at trial regarding delays and damages; arbitrating construction disputes as a AAA arbitrator. Mr. Radbill helped to develop and taught as lead instructor the National Transit Institute's Management of Transit Construction projects and as assistant instructor for the NTI course Quality Assurance and Quality Control for Transit Projects. |
| Danny Rogers, PE | Task Order Manager | Responsible for oversight of this task order. He has more than 30 years of experience managing a wide variety of multidisciplinary engineering projects in the transit and highway fields. His transit experience includes Bus Rapid Transit and light rail projects. The majority of his transit work has been in the North Carolina, including work with the North Carolina Department of Transportation, Charlotte Area Transit System and GoTriangle. The last fifteen years Mr. Rogers served as the Project Director for New Starts Projects for the CATS Blue Line Extension and then most recently with the GoTriangle Durham-Orange Light Rail Project. |
| Stephen Smith, PE | Civil Engineer | Stephen T. Smith, P.E., has more than 16 years of comprehensive and progressive project and construction management experience in complex public transit and transportation projects. This experience includes civil engineering; planning, design, and engineering document review; design oversight and support during construction; construction planning, practices and methods; change management, claims, negotiations, and dispute resolution; project controls; cost estimating; alternative project delivery methods; contract procurement; quality assurance/quality control; and infrastructure asset maintenance management. His transit, transportation, and general rail project and construction management experience includes streetcar; light rail; commuter rail; freight rail; BRT; rail and bus maintenance and support facilities; rail vehicle procurement; and municipal, state, and interstate bridge, roadway, and facility construction and maintenance. |
| Chen Zhou, EIT | Construction Management Manager | Responsible for oversight of construction management activities and project scheduling. She |
| James Oswell, CCP | Cost Estimating Manager | Responsible for oversight of cost estimating and cost control. Mr. Oswell has 50 years of experience in the construction industry as a cost estimator and cost analyst. His career has focused on cost estimating, scheduling, project management, value engineering, claims resolution, and change order request processing for a wide range of projects including transit/transportation and heavy civil construction. He specializes in escalation forecasting services for large capital programs for federal, state and local agencies. He has experience in the development and reconciliation of design phase estimates for transportation projects and he has established standards for designer-provided third-party estimates. He is skilled at developing and maintaining current cost databases for specific geographical areas, as well as working with industry cost databases. In addition, Mr. Oswell has experience |

| Name | Position | Background |
|---|-----------------------------|--|
| | | supervising the review of contractor progress schedules and pay applications. |
| Ben Booterabi, EIT | Project Scheduling Manager | Responsible for oversight of project scheduling. On the \$450 million Lynx Blue Line South Corridor 9.6-mile light rail project for CATS, Mr. Booterabi was the Task Order Manager responsible for providing monthly and quarterly reports to FTA, participating in the risk assessments; verifying grantee regulatory and compliance with federal and state requirements; reviewing and monitoring the project's schedule, budget and design to ensure conformance with design criteria; evaluating the grantee's technical capacity and capability; reviewing and monitoring the project's scope, schedule, and budget. He has more than 30 years working on transportation projects as an assistant project manager, task order manager, lead project controls manager, claims specialist, project coordinator/planner, troubleshooter, cost control engineer and scheduler. He is proficient in Oracle Primavera P3 and P6, Sure Track, Project System (SAP), internet-based management systems and Microsoft Project. |
| Dain Pankratz, PE | Systems Safety Manager | Mr. Pankratz is responsible for oversight of safety and security activities. He is a Registered Professional Engineer (M-34042) in California, and is a nationally Certified Safety Professional (CSP), CSP-29902. On the 61-mile Central Florida Commuter Rail Transit Project, he was the Systems Safety Manager supporting oversight of safety and security design, construction, testing and startup. Mr. Pankratz was also the Systems Safety Manager supporting oversight of safety and security design, construction, testing and startup on MWAA's Dulles Corridor Metro Project, a 23.1-mile rapid transit system in Northern Virginia with total budget estimated over \$7 billion. Mr. Pankratz is the Systems Safety Manager supporting oversight of. |
| Brian Clark, EIT | Systems Integration Manager | Mr. Clark has 30 years of experience in all project phases of rail rapid transit systems. He provides rail signaling and communication system engineering, construction, testing and technical training services to major transit authorities, including for several major city transit agencies, including New York City Transit Authority and the Port Authority of New York and New Jersey. He has been directly involved in the design and construction of rail control centers, signaling and communication systems, rehabilitation of mainline territory, interlocking locations and yards, as well as bridge and tunnel rehabilitation projects. Mr. Clark also provides track inspection and track buckling inspection services and maintains railway grade crossing warning systems. |
| Arun Virginkar | Rail Equipment Engineer | Responsible for oversight of rail vehicle engineering and Buy America compliance. He has been involved with the PMOC Program since 1994. He has experience in contract management, vehicle and systems equipment engineering, operations and maintenance planning, system integration and testing, safety certification plans, and quality and system assurance. He also has specialized experience in Buy America Pre-Award and Post-Delivery audits of car builders. |
| Bob Merryman, Licensed Real Estate Appraiser (Missouri) | Real Estate Manager | Responsible for oversight of real estate activities on the project. He has 35 years of practical experience in the implementation of the Uniform Act in federally funded projects. In addition, he has written three text books used by FHWA, as well as the one additional course text used by the FTA discussing the implementation of the Uniform Act. He also served as lead investigator on the business retrospective study for the Federal Highway Administration. The information gleaned from this investigation was to develop the most recent revisions to 49 CFR Part 24. |
| David Sillars, PhD | Risk Assessment Manager | Responsible for oversight of the risk management activities for the project. He has over 35 years of experience in risk and management consulting and transportation research. He assisted FTA with editing and developing the |

| Name | Position | Background |
|--------------|----------------------------|--|
| | | updated MAP-21 Risk and Contingency Management Oversight Procedure (OP 40) and updated FTA risk workbook. He has co-developed and delivered the New Starts risk management training program for the National Transit Institute on behalf of the FTA. |
| Robert Mowry | Transit Operations Manager | Responsible for oversight of the transit operations planning for the project. As General Manager/Chief Operating Officer at Maryland Transit Administration, Mr. Mowry provided executive leadership for a public transit agency with over 3,200 employees that directly operated fixed route bus service, commuter bus and rail, heavy rail, light rail and paratransit services. Mr. Mowry had overall responsibility for the operation, maintenance, finance, administration, planning, policy, engineering and customer service functions of the agency. Mr. Mowry had responsibility and control of the 6 year \$1.4 billion dollar capital program which included the introduction of 230 new buses into the fleet, completion of the FTA's funded light rail double track project, and a heavy rail car fleet mid-life overall project. Mr. Mowry presented status of projects, financial budgets, responses and corrective actions for legislative audit findings and collective bargaining agreement negotiations to various MDOT executive staff and Maryland General Assembly Committees. |

Appendix D: Project Overview and Map

Date: June 2018
Project Name: Honolulu Rail Transit Project
Grantee: City and County of Honolulu
FTA Regional contact: Catherine Luu
FTA HQ contact: Chris Hudson

SCOPE

| | |
|-------------------------|---|
| Description | The proposed Project is an approximately 20-mile rail alignment extending from East Kapolei to Ala Moana Center. |
| Guideway | The majority of the Project is to be built on aerial structure, but the Project also includes a short at-grade section (0.6 miles). |
| Stations | 21 stations (20 aerial and 1 at-grade) |
| Support Facility | Maintenance and Storage Facility (located near Leeward Community College) |
| Vehicles | 80 light metro rail |
| Ridership | 104,300 weekday boardings in 2019; 119,600 weekday boardings in 2030 |

SCHEDULE ¹

| | |
|----------------------------|---|
| 10/09 Approval Entry to PE | 03/19 Estimated RSD at Entry to PE |
| 12/11 Approval Entry to FD | 03/19 Estimated RSD at Entry to FD |
| 06/12 Request for FFGA | 03/19 Estimated RSD at Request for FFGA |
| 12/12 FFGA | 01/20 RSD at FFGA |
| 09/17 Recovery Plan | 12/25 RSD at Recovery Plan |

COST ²

\$5.348 B Total Project Cost (\$YOE) at Approval Entry to PE
 \$5.126 B Total Project Cost (\$YOE) at Approval Entry to FD
 \$5.122 B Total Project Cost (\$YOE) at request for an FFGA
 \$5.122 B Total Project Cost (\$YOE) at FFGA
 \$9.020 B Total Project Cost (\$YOE) at Recovery Plan

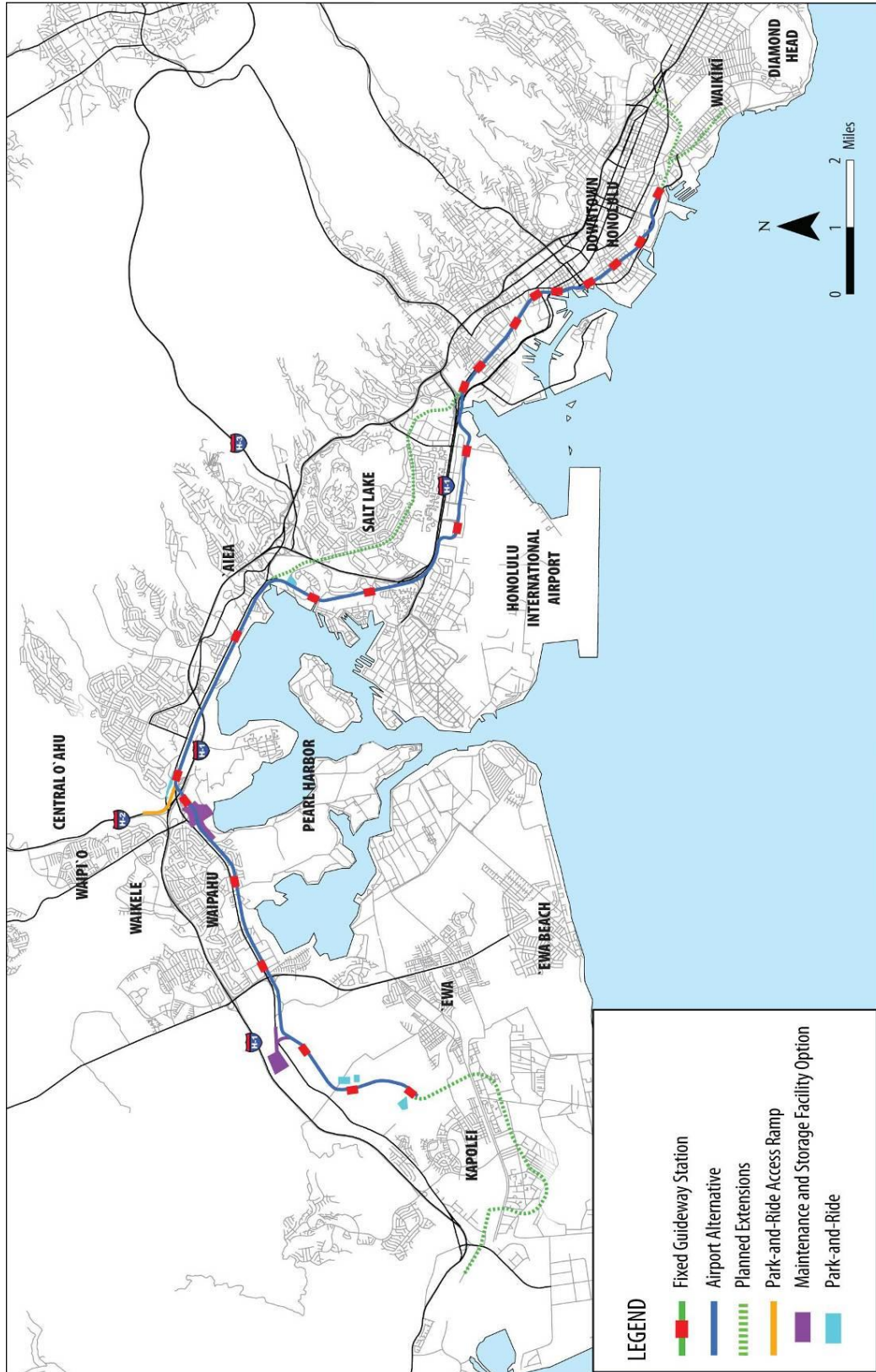
\$3.127B Amount of Expenditures at date of this report
 42.3% complete (Total Project Expenditures/EAC)

Notes

HART's Recovery Plan dated September 2017 was reviewed by the FTA and PMOC. A Risk Refresh Workshop was held February 27, 2018 to address HART's updated Estimate at Completion (EAC) and MPS that were provided in December 2017. That workshop predicted a p50 level budget of \$8.413 billion (excluding financing costs) and a 65% confidence level for RSD no earlier than November 2026.

1. The Revenue Service Date (RSD) remains at December 2025 with 12 months of contingency. HART intends to implement an interim opening from East Kapolei Station to Aloha Stadium Station in 2020.
2. HART's current EAC is \$9.020 billion, including \$841 million in allocated and unallocated contingency and \$584 million in financing costs.
3. HART is considering various options including Public-Private Partnership (P3) for the City Center Guideway and Stations (CCGS). The updated EAC and MPS that was submitted in December 2017 are based on Design-Build (DB) contracting methodology to complete CCGS. The PMOC's review assumes DB will be utilized for CCGS as planned.

Honolulu Rail Transit Project Map



Appendix E: Safety and Security Checklist (Updated October 2018)

| | | | |
|---|-------------------------------|----------------------|---|
| Project Overview | | | |
| Project Name | Honolulu Rail Transit Project | | |
| Project mode (Rail, Bus, BRT, Multimode) | Rail | | |
| Project phase (Preliminary Engineering, Final Design, Construction, or Start-up) | Construction | | |
| Project Delivery Method (Design/Build, Design/Build/Operate Maintain, CMGC, etc.) | DB, DBB and DBOM | | |
| Project Plans | Version | Review by FTA | Status |
| Safety and Security Management Plan | 6 | Y | Complete |
| Safety and Security Certification Plan | 6 | Y | Complete |
| Public transportation Agency Safety Plan (PTASP) Part 673 now requires PTASP (instead of SSPP) | | N/A | Mar-2019 |
| System Security Plan or Security and Emergency Preparedness Plan (SSEPP) | | N/A | Mar-2019 |
| Construction Safety and Security Plan | 4 | Y | Complete |
| Safety and Security Authority | Y/N | | Status |
| Is the grantee subject to 49 CFR Part 659/674 state safety oversight requirements? | Y | | |
| Has the state designated an oversight agency as per Part 659.9/674 | Y | | Executive Order 10-04 effective April 6, 2010 |
| Has the oversight agency reviewed and approved the grantee's SSPP as per Part 659.17/674? | N/A | | Not required until startup (2019/2020) |
| Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21? | N/A | | Not required until startup (2019/2020) |
| Did the oversight agency participate in the last Quarterly Program Review Meeting? | Y | | Also Participates in Monthly Meeting |
| Has the grantee submitted its safety certification plan to the oversight agency? | Y | | |
| Has the grantee implemented security directives issued by the Department Homeland Security, Transportation Security Administration? | N | | None issued to date |
| SSMP Monitoring | | | |
| Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project? | Y | | |
| Grantee reviews the SSMP and related project plans to determine if updates are necessary? | Y | | |
| Does the grantee implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify. | Y | | |
| Does the grantee maintain a regularly scheduled report on the status of safety and security activities? | Y | | Reported Monthly |
| Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases? | Y | | |
| Does the grantee update the safety and security responsibility matrix/organization chart as necessary? | Y | | |
| Has the grantee allocated sufficient resources to oversee or carry out safety and security activities? | Y | | Contractor safety resources a concern |

| | | |
|--|---|--|
| Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases? | Y | |
| Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities? | Y | |
| Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly. | Y | |
| Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted. | Y | |
| Has the grantee ensured the development of safety design criteria? | Y | |
| Has the grantee ensured the development of security design criteria? | Y | |
| Has the grantee verified conformance with the safety and security requirements in the design? | Y | Ongoing |
| Has the grantee identified conformance with safety and security requirements in equipment and materials procurement? | Y | Ongoing |
| Has the grantee verified construction specification conformance? | Y | Ongoing |
| Has the grantee identified safety and security critical tests to be performed prior to passenger operations? | N | Will be done during Rail Activation phase |
| Has the grantee verified conformance with safety and security requirements during testing, inspection and start up phases? | N | Will be done during Rail Activation phase |
| Does the grantee evaluate change orders, design waivers, or test variances for potential hazards and/or vulnerabilities? | Y | Ongoing |
| Has the grantee ensured the performance of safety and security analyses for proposed work-arounds? | N | Will be done during Rail Activation phase |
| Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following? <ul style="list-style-type: none"> • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan | N | Will be done during Rail Activation phase |
| Has the grantee issued final safety and security certification? | N | Will be done after completion of Rail Activation phase |
| Has the grantee issued the final safety and security verification report? | N | Will be done during Rail Activation phase |
| Construction Safety | | |
| Does the grantee have a documented/implementation Contractor Safety Program with which it expects contractors to comply? | Y | CSP development is included in construction contracts |
| Does the grantee's contractor(s) have a documented company-wide safety and security program plan? | Y | Is a requirement of CSSP |
| Does the grantee's contractor(s) have a site-specific safety and security program plan? | Y | Is a requirement of CSSP |
| Provide the grantee's OSHA statistics compared to the national average for the same type of work? | Y | Reported Monthly |

| | | |
|--|----|------------------------|
| If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record? | Y | Ongoing |
| Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures? | Y | Audit required in CSSP |
| Federal Railroad Administration | | |
| If the shared track: has the grantee submitted its waiver request application to FRA? (Please identify any specific regulations for which waivers are being requested) | NA | |
| If the shared corridor: has grantee specified specific measures to address shared corridor safety concerns? | NA | |
| Is the Collision Hazard Analysis underway? | NA | |
| Other FRA required Hazard Analysis – fencing, etc.? | NA | |
| Does the project have Quiet Zones? | NA | |
| Does FRA attend Quarterly Review Meetings? | NA | |

Appendix F: Third Party Agreements

| Agency | Pending Agreements | Target | Section | CROE* | Notes/Remarks |
|--|--|-----------|---------|-------|--|
| STATE | | | | | |
| UH – University of Hawaii, West Oahu (UHWO) East Kapolei | Construction Right of Entry and Occupancy & Use Agreement for East Kapolei Temporary Park & Ride | 2021 | WOFH | No | Continue to coordinate and work with UH to select a site for a park and ride. Waiting for direction and maps. |
| UH – Urban Gardens | Conveyance to HDOT(H) – Dept. of Transportation Highways | Jan 2020 | KHG | Yes | In process. Royal Contracting in process of securing Right of Entry (ROE) for road, retaining wall, and concrete culvert improvements. Expect results from environmental studies by May 25, 2018. Construction completion date contingent upon Royal securing a ROE from UH. |
| UH – Honolulu Community College (HCC) | Construction Right of Entry for guideway & station | Oct 2018 | CC | No | Working with UH regarding ROE Agreement. Ongoing exchange of comments with UH. |
| DLNR – Dept. of Land & Natural Resources | Kapolei Easement Agreement for overhead guideway and for park and ride facility | June 2019 | WOFH | Yes | In process. Subdivision approved by DPP. Subdivision maps with DAGS for processing. Once processed, DLNR will submit an easement agreement for HART review and approval. |
| DLNR/C&C Wastewater Div. | Easement Agreement | Jan 2019 | CC | | In process. Waiting for DPP approval and work on easement document with DLNR. |
| DLNR/C&C Wastewater Div. | Construction Right of Entry | Aug 2018 | CC | | Construction ROE obtained from DLNR 10/21/17. Subdivision submitted with DPP 1/1/18. |
| DOE - Waipahu HS | Permanent Easement (State portion) | May 2019 | WOFH | Yes | In process. Construction is not impacted as the ROE for right to access and construct is executed. |
| DOE – Dept. of Education Waipahu HS | Memorandum of Understanding (State portion) | Aug 2018 | WOFH | Yes | In process. Construction is not impacted as the ROE for right to access and construct is executed. |
| DOE – Waipahu HS | Memorandum of Understanding (City portion) | May 2019 | WOFH | Yes | In process. Construction is not impacted as the ROE for right to access and construct is executed. |

| Agency | Pending Agreements | Target | Section | CROE* | Notes/Remarks |
|---|---|----------|------------------|----------------|---|
| DOE – Waipahu HS | Permanent Easement (City portion) | May 2019 | WOFH | Yes | Permanent easement from City in process. Construction is not impacted as the Master/Construction Agreement is executed. |
| Aloha Stadium / Dept. of Accounting & General Services (DAGS) | Easement Agreement for guideway | Jan 2020 | KHG | Yes | In process. Construction is not impacted as the ROE for right to access and construct is executed. |
| Aloha Stadium/ DAGS | Easement Agreement for station park and ride | Jan 2020 | KHG | Yes | In process. Construction is not impacted as the ROE for right to access and construct is executed. |
| HDOT(H) – Dept. of Transportation Highways | Master Agreement Amendment | Jan 2019 | WOFH | Yes | Construction is not impacted as the Joint Use & Occupancy Agreement (JU&O) for right to access and construct is executed. |
| HDOT(H) and (A) – Dept. of Transportation Highways & Airports | Master Agreement for KHG, Airport and City Center Amendment | Jan 2019 | KHG/ Airport/ CC | Yes (KHG/ AGS) | Construction is not impacted as the JU&O for right to access and construct for City Center will be executed when NTP is issued. |
| HDOT(H) | Joint Use & Occupancy (JU&O) Sub-agreement | Jan 2019 | WOFH | Yes | In process. Construction is not impacted as the JU&O for right to access and construct is executed. |
| HDOT(H) | Joint Use & Occupancy (JU&O) Sub-agreement | Jan 2019 | CC | | In process. Construction is not impacted as the JU&O will be executed when Notice to Proceed (NTP) is issued. |
| HCDA -HI Community Development Authority | Construction ROE, License Agreement, & Final Disposition | Jan 2019 | CC | Yes | Coordination is ongoing. HART has 3-month pre-construction ROE. |
| DAGS – Dept. of Accounting & General Services / Hi Housing Finance & Development Corp (HHFDC) | Construction Right of Entry | Aug 2018 | CC | | To be processed. |
| DAGS | Easement Agreement | Aug 2018 | CC | | To be processed. |
| FEDERAL | | | | | |
| U.S. Gov't/General Services Administration (GSA)/Federal Courthouse | Master Agreement to include Security & Landscape Plan | Mar 2019 | CC | | Under review. |
| GSA Federal Courthouse | Temporary Construction Easement (TCE) | May 2019 | CC | | Under review. |
| GSA Federal Courthouse | Quitclaim Easement Document | May 2019 | CC | | Under review. |
| OTHER | | | | | |

| Agency | Pending Agreements | Target | Section | CROE* | Notes/Remarks |
|-------------|--|----------|---------|-------|--|
| D.R. Horton | Construction Right of Entry Amendment – D.R. Horton & HART | Jun 2018 | WOFH | Yes | Amendment in process. |
| D.R. Horton | Construction Right of Entry - D.R. Horton & HECO | May 2018 | WOFH | | Executed 5/11/2018. |
| D.R. Horton | Final Easement Agreement | Jan 2020 | WOFH | Yes | In process and subject to owner's development plans. Construction is not impacted. |

*CROE – Construction Right of Entry